



INTERSPEECH 2023

20th-24th August 2023 - Dublin, Ireland

Inclusive Spoken Language Science and Technology - Breaking Down Barriers

Programme Book

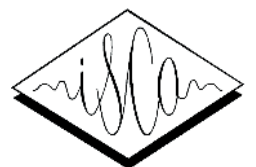


www.interspeech2023.org

#INTERSPEECH2023



Engaging Content
Engaging People



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Welcome Letters

Dear INTERSPEECH 2023 attendees, Dear friends of ISCA,

For the first time, INTERSPEECH has opened its doors in Ireland, marking Dublin as a new spot on the INTERSPEECH worldwide map. I am very glad that the General Chairs Naomi Harte, Julie Carson-Berndsen, and Gareth Jones, together with their entire team, will welcome us to this beautiful city, which I am sure will create a memorable conference experience for all attendees.

For the first time since 2019, INTERSPEECH is back on stage with a purely in-person format. COVID has taught us a lot about the pros and cons of virtual and hybrid formats. These arguments were discussed during last year's INTERSPEECH conference. The common feeling was that a hybrid format cannot replace an in-person encounter, which is amongst the most important reasons to attend a scientific event. In particular in an international setting, with participants from all over the world, limited time slots for virtual presentations and discussions can only be a lowkey replacement for such encounters. In turn, attendance fees would become prohibitively high if an entire conference is to be organized with technical support for hybrid attendance. As a result, the decision was made to return to an in-person format, reserving virtual presentation formats to scientists with special (health or visa-related) restrictions. In my opinion, this will not mark the end of INTERSPEECH format development, as climate change requires us to control our environmental footprint much more closely; I hope that we will see other innovations helping us to address this most important problem of humankind.

Irrespective of the conference format, our field has seen increasing submission and registration numbers, and INTERSPEECH 2023 is no exception to this rule. Handling over 2200 submissions in terms of reviews, meta-reviews, selection and program creation in a limited period of time is a true challenge for the Technical Program Committee (TPC), excellently led by Simon King, Petra Wagner and Kate Knill. The team has addressed this challenge by introducing a number of technical tools which will support the work of INTERSPEECH TPCs not only for this year, but also for the years to come. For the first time, a rebuttal option was provided to address review criticisms, and all accepted submissions were checked for plagiarism. Although not all of these innovations made every author "happy", we recognized that the society needs to continue efforts in the TPC to allow for both growth, as well as sustained professionalism in supporting INTERSPEECH conferences which continue to grow in size. ISCA has recognized and is taking steps to address this issue by hiring Antoine Serrurier as a Scientific Coordinator, who supports the INTERSPEECH 2023 TPC. However, most important, is the support from all you serving as reviewers and areachairs, making INTERSPEECH 2023 a very special event in terms of its scientific program. A big thank you to all supporting your favorite conference in this way!

The value of the scientific program is highlighted by a number of scientific plenary events. The first one (in chronological order) will be the keynote presentation by the recipient of the ISCA 2022 Medal for Scientific Achievement. Shrikanth (Shri) Narayanan received this most prestigious ISCA award for his sustained and diverse contributions to speech communication science and technology and its application to human-centered engineering systems. Shri, an ISCA fellow since 2016, will be known to most of you for his excellent work in areas as diverse as speech production, articulatory acoustics, speech prosody, speech and language processing, prosody modeling, speech translation, speech synthesis, spoken dialog and conversational systems, behavioral signal processing, affective computing, multimodal signal processing, as well as biomedical signal and image processing. His keynote speech will show us how to bridge speech science and technology – now and in the future. Next, Virginia Dignum will give a presentation focused on "the AI hype" – and how a need for responsible AI requires all to emphasize trust, cooperation, and common good. The third keynote will be presented by Martine Grice, exploring why and how intonational rises orient attention. In contrast to standard years, the scientific plenary session on the third day will not be a keynote speaker, but a debate session on how end-to-end approaches to speech technology impact our field. Roger Moore and his panelists will discuss the pros and cons of this important



Sebastian Möller
ISCA President

Welcome Letters

question which has created lots of debate in our community. The program is further amended by a panel session on assessing and mitigating AI bias in speech processing systems, nine special sessions and three challenges, demo and show-and-tell sessions, as well as overview talks on selected areas of our community. It will be blended with social and networking options for all. I am particularly grateful for our ISCASAC and ISCAPECRAC for taking care of the needs of students and young researchers, as well as our Diversity Committee for their efforts to make INTERSPEECH an even more inclusive event.

At this INTERSPEECH, we will also welcome eight new ISCA Fellows in your scientific community:

- » Gerard Bailly (GIPSA-Lab, CNRS & Grenoble Alps Univ., France) “for contributions to multimodal speech generation and bridging the gaps between speech research and social robotics”;
- » Mark Hasegawa-Johnson (University of Illinois, USA) “for contributions to knowledge-constrained signal generation”;
- » Kate Knill (University of Cambridge, UK) “for technical contributions in multi-language/accent, low-resource speech processing and long-standing service to the speech community”;
- » Hanseok Ko (Korea University, Korea) “for sustained innovation in Korean and English spoken language technologies”;
- » Kikuo Maekawa (National Institute for Japanese Language and Linguistics, Japan) “for contributions to the development of language resources for the study of Japanese as a spoken language”;
- » Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany) “for innovative and extensive contributions to the analysis of pathological speech signals”;
- » Alexandros Potamianos (Amazon Alexa and University of Southern California, USA) “for contributions to human-centered speech and multimodal signal analysis and conversational technologies”; and
- » Shinji Watanabe (Carnegie Mellon University, USA) “for wide ranging, fundamental contributions to research and leadership in speech recognition technologies”.

ISCA is very proud to have such world-class researchers amongst its members!

In my role as ISCA president, I would like to highlight some changes our organization is experiencing which you will experience soon. We have worked intensively on selecting and shaping new software tools to facilitate the services for our community. Most visibly to you, we will have a new internet presence, together with new membership administration software. The new software will allow the creation of rooms for committees and Special Interest Groups, will facilitate communication with selected or all members, and will hopefully increase your involvement in ISCA activities. We decided to postpone the introduction of the new software until autumn, as we want to avoid interference with INTERSPEECH registrations. Furthermore, elections were held in April this year, and six members of the new Board were elected, whom we will welcome at the General Assembly taking place on Monday, August 21, at 16:30. The General Assembly will also be the time when I will leave the Board as your president, and we will hand over the responsibilities to the new Board. Please join us and support your scientific association so that we can best serve all of you!

On behalf of the ISCA membership and the speech science and technology community as a whole, I would like to express my sincere gratitude to the entire Organising Committee of INTERSPEECH 2023. Together with the Board, I know that this team is at the core of hosting an excellent INTERSPEECH conference; enjoy this event in all its facets.

Welcome to INTERSPEECH 2023 in Dublin, Ireland!

Sebastian Möller

Sebastian Möller
ISCA President

Welcome Letters

Dear Colleagues and INTERSPEECH 2023 participants,

Céad míle fáilte [ce:d,ˠ 'mi:l̪ə 'fʲa:l̪t̪ə] - A hundred thousand welcomes!

Welcome to the 24th INTERSPEECH Conference, taking place here in Dublin, Ireland. INTERSPEECH is the world's largest and most comprehensive conference on the science and technology of spoken language processing and a hugely important event for our community. We have chosen the conference theme Inclusive Spoken Language Science and Technology – Breaking Down Barriers with the aim of promoting and encouraging research and innovation guided by principles of diversity, inclusivity, and accessibility. We hope that this theme will foster a dialogue among speech scientists and technologists about the challenges and opportunities in creating spoken language technologies that are truly inclusive. The theme of inclusion will resonate at multiple levels throughout the conference. The roots of INTERSPEECH lie in our understanding of human speech communication. However, with the power of deep-learning and the improved performance it has delivered for speech technology, it is possible to get carried away on the wave of algorithmic advancement. At this year's conference we also celebrate the human side of speech communication, giving full recognition to the importance of core language knowledge in technology development.

Ireland, perhaps best known for its green fields and Celtic traditions has become an open and diverse society with one of the EU's youngest and fastest-growing populations. Irish, or Gaeilge [gʲe:l̪ˠə] as we call it in Irish, is Ireland's first national language and became a full official and working language of the EU on 31st December 2021. It is a Celtic language, closely related to Scottish Gaelic, and more distantly to Welsh. It is spoken as a community language in Gaeltacht regions, mostly on the western seaboard. There are three major dialect groups of Ulster, Connacht and Munster. Irish has a rich sound system, with a contrast of palatalised (Cj) and velarised (Cɣ) consonants. Given that the Roman alphabet is not a great fit to this system of contrasts, the writing conventions are opaque – even if fairly regular. To hear how Irish names or phrases are pronounced, the synthetic voices at www.abair.ie will pronounce them for you – in your choice of dialect. At this link you will also find a welcome message from our 'virtual speakers' and, for those who would like to read more, an IPA description of the sound system. English is Ireland's second official language and is spoken on a daily basis.

Our host city, Dublin, has a rich cultural heritage and has been a home to literary greats such as James Joyce, Oscar Wilde and Bram Stoker. Dublin was designated a UNESCO city of literature in 2010 and now boasts four Nobel Laureates with William Butler Yeats, George Bernard Shaw, Samuel Beckett and Seamus Heaney. With its historic buildings and contemporary architecture, Dublin is now a vibrant city, alive with music, art and theatre; we encourage you to explore all it has to offer.

With an excellent reputation for education, academic research and innovation, Dublin is the European headquarters of many of the world's top ICT, Financial and Pharma industries. ADAPT, the host of INTERSPEECH 2023, is the world-leading SFI Research Centre for AI-Driven Digital Content Technology which brings together leading academics and researchers from Trinity College Dublin, Dublin City University, University College Dublin, Technological University Dublin, Maynooth University, Munster Technological University, Technological University of the Shannon: Midlands Midwest, and the University of Galway, to deliver excellent science, engage the public, develop novel solutions for business across all sectors and enhance Ireland's international reputation. Inclusion is also a key focus for ADAPT when it comes to its research agenda around speech and language technology stemming from the larger vision of the Centre to work towards a balanced digital society.



Naomi Harte
General Chair



Julie Carson-Berndsen
General Chair



Gareth Jones
General Chair

Welcome Letters

INTERSPEECH 2023 will be held at the Convention Centre Dublin, designed by renowned Pritzker award-winning architect Kevin Roche and located in the heart of our beautiful city directly on the River Liffey with stunning views of Dublin. Over the five days of the conference, we have a high-quality programme of tutorials, survey talks, and oral and poster presentations. There are three excellent keynote talks by Shrikanth Narayanan, Virginia Dignum and Martine Grice and an exciting debate on End-to-End Models – Friend or Foe of Speech Research hosted by Roger Moore with a panel of experts from our community, Dilek Hakkami-Tür, Ralf Schlüter, Dan Jurafsky and Julia Hirschberg. We hope that you will join in the discussion around this important topic. With days filled with top-quality research and vibrant discussion, and evenings packed with culture, creativity and craic (the Irish term for fun!), INTERSPEECH 2023 is the perfect opportunity to reconnect with colleagues from across the world in a friendly, respectful and relaxed atmosphere.

We would like to take this opportunity to thank everyone who has supported us in the organisation of this conference, in particular Keynote PCO, ISCA and our fabulous Technical Programme Chairs – Simon King, Kate Knill and Petra Wagner.

Bainigi taitheamh agus tairbhe as bhur dtréimhse i mBaile Átha Cliath
Have an enjoyable and productive time in Dublin

**Naomi Harte, Julie Carson-Berndsen,
Gareth Jones**

Naomi Harte, Julie Carson-Berndsen, Gareth Jones
General Chairs

Welcome Letters

A warm welcome to INTERSPEECH 2023 in Dublin!

When taking on the exciting, but also challenging task to organise this year's conference program, we sincerely hoped to be able to meet again in person after these difficult years, without the additional need of hybrid or online sessions. It remained hard to predict how the post pandemic situation would affect submission numbers as well as participation. We were therefore more than happy that the overall number of submissions has remained stable, allowing us to build an excellent and broad conference program that fully covers all areas of speech science and technology.

The conference theme of "Inclusive Spoken Language Science and Technology - Breaking Down Barriers" has shaped our work in many ways. The major novelty introduced at this year's INTERSPEECH clearly was the double-blind reviewing process. We believe it was a necessary and successful change, but it also became clear that both authors and reviewers need more experience to take full advantage of it. When building our TPC and reaching out to Area Chairs, we sought a balanced representation in terms of gender as well as geographical regions in order to crucially widen participation in the decision making processes. With 28 female and 35 male Area Chairs, we built a nearly gender balanced team across all areas. However, strong within-area imbalances remain and need to be further improved in the future. We also experienced that recruiting Area Chairs from strongly underrepresented geographical regions (e.g., Africa, Latin America) remains a challenge, but can be achieved.

Another major innovation was the move to CMT, and with it the necessity that our reviewers also register in CMT. With a lot of help from Antoine Serrurier we also significantly expanded our pool of reviewers. As CMT integrates the Toronto Paper Matching System (TPMS), we were able to test its suitability for our reviewing process. Our experiences were positive, and we believe that the matches between reviewers and assigned papers can be further improved once the majority of our reviewers also have a TPMS profile.

Overall, we received 2,293 submissions for the main track, out of which 2,207 were sent to review (after desk rejects, ethics violations and withdrawn papers). All papers were subject to a plagiarism check, and final decisions on ethical violations were made by the ISCA Ethics committee. Final decisions on paper acceptance were made during the TPC meeting at TCD in Dublin, which took place on May 10-11 2023 (with a few remote participants), and during which the General Chairs, TPC Chairs, Area Representatives and ISCA Technical Committee jointly decided to accept 1,097 papers (after review), leading to an overall acceptance rate of 49.7%. For Show and Tell, we received a total of 66 submissions, out of which 55 were sent to review, and 45 were finally accepted.

Session building took place during the TPC meeting, resulting in a total of 98 technical sessions, out of which 61 are oral and 37 are poster sessions. We would like to stress that the assignment of papers to poster or oral sessions was not based on their scientific merit. Rather, oral sessions are streamlined towards a particular subtopic within an area, while poster sessions are thematically loose, comprising a range of topics that cover an entire area. That way, we hope to give poster presenters a better chance to communicate with colleagues working in similar (sub)fields. Additionally, the technical program comprises 4 Show and Tell sessions, and 10 Special Sessions (including a panel discussion on mitigating bias in speech processing systems), organised by Finnian Kelly and John Kane, and Jennifer Williams and Mark Gales, respectively. During the TPC meeting, further decisions were made on 9 Survey Talks (based on suggestions by the Area Chairs), which are integrated into thematically fitting oral sessions. Area Chairs also nominated best student papers and – for the first time – best reviewers!



Simon King
TPC Chair



Kate Knill
TPC Chair



Petra Wagner
TPC Chair

Welcome Letters

Keynote presentations are special moments of each INTERSPEECH, and this year is no difference: with Shri(kanth) Narayanan, Virginia Dignum, and Martine Grice, we can all look forward to inspiring talks on topics that are of high relevance to our community: bridging speech science and technology, balancing innovation and social responsibility, and the relevance of prosody for attention orienting. Diverging from previous INTERSPEECH conferences, this year's program prominently features a panel debate on a topic that many of us have opinions about: the relationship between end-to-end models and speech research. With Roger Moore as panel chairperson, and Dilek Hakkani-Tür, Julia Hirschberg, Dan Jurafsky and Ralf Schlüter as discussants, we anticipate a lively and insightful morning debate on a crucial question.

Of course, INTERSPEECH is more than its main program, and is characterised by numerous exciting events surrounding it: the Sunday before the main conference is dedicated to 8 tutorials on a diverse set of topics, and there is a total of 13 satellite events, including speech technological challenges as well as workshops on various aspects of speech technology, speech science, and related disciplines.

Looking at the - we believe - exciting, diverse and excellent conference program sketched above, it should be clear that this is the result of a huge collaborative effort, comprising a very long list of people who contributed, helped, listened, thought things through, made suggestions, questioned, reminded, proof-read, encouraged, criticised and acted. We would like to especially thank the Area Chairs, Special Session and Show and Tell Chairs, the ISCA Technical Committee, especially the Chairs (Bhuvana Ramabhadran and Nancy Chen), Antoine Serrurier, the INTERSPEECH General Chairs (Naomi Harte, Gareth Jones and Julie Carson-Berndsen) for trusting us to do this, and lastly all of you for submitting and reviewing your work.

We sincerely hope you will thoroughly enjoy INTERSPEECH 2023 and the events surrounding it in the friendly and relaxed atmosphere of Dublin, where we can all reconnect and work together towards a truly "Inclusive Spoken Language Science and Technology [that helps] Breaking Down Barriers".

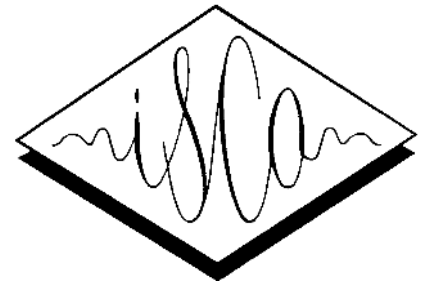
Simon King, Kate Knill, Petra Wagner

Simon King, Kate Knill, Petra Wagner

Organisers and Hosts

ISCA

ISCA is a non-profit organization. Its original statutes (statutes in French or their translation in English) were deposited on February 23rd at the Prefecture of Grenoble in France by René CARRÉ and registered on March 27th, 1988.



The association started as ESCA (European Speech Communication Association) and, since its foundation, has been steadily expanding and consolidating its activities. It has offered an increasing range of services and benefits to its members and also it has put its financial and administrative functions on a firm professional footing. Indeed, over the ten years of its existence, ESCA evolved from a small EEC-supported European organization to a fully-independent and self-supporting international association.

At the General Assembly that took place during the Eurospeech conference in Budapest (September 1999), ESCA became a truly international association in the global field of speech science and technology, changing its name to ISCA (International Speech Communication Association) and modifying its statutes accordingly.

The purpose of the association is to promote, in an international world-wide context, activities and exchanges in all fields related to speech communication science and technology. The association is aimed at all persons and institutions interested in fundamental research and technological development that aims at describing, explaining and reproducing the various aspects of human communication by speech, that is, without assuming this enumeration to be exhaustive, phonetics, linguistics, computer speech recognition and synthesis, speech compression, speaker recognition, aids to medical diagnosis of voice pathologies.

ADAPT – Host Research Centre

ADAPT is the world-leading SFI Research Centre for Digital Media Technology hosted by Trinity College Dublin. ADAPT's partner institutions include Dublin City University, University College Dublin, Technological University Dublin, Maynooth University, Athlone Institute of Technology and Cork Institute of Technology.



Engaging Content
Engaging People

ADAPT focuses on how to get the most from digital content through extracting meaning from global content streams, personalising content delivery and improving user interaction with the data. ADAPT's research encompasses text, speech and video processing. It is empowering collaborators in academia and industry to lead on ground-breaking innovations and access vital tools, standards, and expertise across the whole life cycle of digital content. www.adaptcentre.ie

Prof Naomi Harte, Prof Julie Carson-Berndsen and Prof Gareth Jones are key principal investigators in ADAPT, driving the research agenda around speech and language. Inclusion is a core underpinning theme in the Centre's research focus, working towards a Balanced Digital Society. We are interested as a Centre in research that is sustainable, that builds user trust and is accountable and acceptable to society. Speech and language technology must be designed to increase rather than constrain individual autonomy, and strengthen rather than diminish social cohesion.

ADAPT is funded by Science Foundation Ireland and co-funded by the European Regional Development Fund (ERDF).

Opening Hours

CLOAKROOM

A cloakroom is available on the ground floor of the CCD next to the registration desk. The cloakroom is available free of charge during the following hours:

Monday, 21st August	08:00 – 20:00
Tuesday, 22nd August	08:00 – 17:30
Wednesday, 23rd August	08:00 – 17:30
Thursday, 24th August	08:00 – 17:00

EXHIBITION

The Exhibition Hall is open during the following hours:

Monday, 21st August	10:30 – 20:00
Tuesday, 22nd August	09:30 – 18:00
Wednesday, 23rd August	09:30 – 18:00
Thursday, 24th August	09:30 – 16:00

REGISTRATION

The registration desk is located on the ground floor lobby of the CCD. Below are the opening hours:

Sunday, 20th August	15:00 – 19:00
Monday, 21st August	07:30 – 18:30
Tuesday, 22nd August	08:00 – 17:30
Wednesday, 23rd August	08:00 – 17:30
Thursday, 24th August	08:15 – 16:00

PRESENTATIONS

All presentation slides must be dropped to the speaker preview room, Liffey Meeting Room 1 on Level 1.

Presentations should be supplied to the AV technician in the speaker preview room, 24 hours before your presentation time.

Please note, it is not possible to load the presentations in the meeting rooms, they must be brought to the speaker ready room to be loaded centrally.

The speaker preview room will be open during the following hours:

Sunday, 20th August	15:00 – 19:00
Monday, 21st August	07:30 – 18:00
Tuesday, 22nd August	07:30 – 17:00
Wednesday, 23rd August	07:30 – 17:00
Thursday, 24th August	07:30 – 13:30

General Information

APP AND ONLINE PROCEEDINGS

To minimise the volume of printed paper, the abstracts and papers are available to view through the congress app and ISCA website. Visit <https://www.isca-speech.org/archive/> or to download the app, please search INTERSPEECH2023 with your app provider.

ACCESSIBILITY

The Convention Centre Dublin is fully accessible for delegates. If you have any requirements, please advise any member of staff who will be able to make appropriate arrangements. There is a Nursing Room for mothers & babies, and also a prayer room available for delegates, on request. Should you require access to these private spaces, please come to the onsite registration desk where a member of staff will assist you.

BANKING

Bank opening hours are generally from 10:00 – 16:00. There are numerous ATMs located within walking distance of the CCD. The closest ATM is located on Mayor Street, in both MACE and Spar retail outlets and both stores are open between 07:00 and 22:00 daily. Visa and MasterCard are accepted in almost all restaurants, bars, cafes, and shops.

CATERING

Tea and coffee breaks are served in the Exhibition Hall on the Ground Floor.

Pre-purchased lunch vouchers are packed into the delegate badge holder. There are no food outlets in the Convention Centre Dublin but there are several options within a 10-minute walk. These are detailed at <https://interspeech2023.org/lunch-around-the-ccd/>. Please visit the registration desk if you require directions.

To minimise the use of single use plastic, delegates are encouraged to bring re-useable bottles to the conference. There are water fountains located in the Convention Centre foyers.

CURRENCY

The currency in Ireland is the Euro (€). Most banks offer a foreign exchange facility and offer the best exchange rates. It is important to remember that traveller's cheques are not generally accepted for everyday transactions, so it is recommended that attendees cash them at the beginning of their trip.

EMERGENCIES

During the conference, in case of an emergency of any kind, please contact the registration desk located on the ground floor foyer. If you require medical services while residing in your hotel, please contact your hotel front desk who will be able to arrange a doctor on call. Please ensure to pay attention to any venue or hotel alarms and announcements.

LOST PROPERTY

During the conference any lost property should be handed into the registration desk.

PARKING

There are 321 low-ceiling underground public car parking spaces on The CCD site. Spaces can be reserved directly with the operators, Park Rite, by telephone on +353 (0) 1 542 5600. Access: On Guild Street (coming from Samuel Beckett Bridge) take the first right turn and then right turn down the ramp to the car park under the Convention Centre building. Along North Wall Quay, pass the front of the Convention Centre and take the next left turn, take the next left and then left turn down the ramp to the car park.

PHOTOGRAPHY

No recording is allowed in oral sessions or in the poster/exhibition hall except by the official conference approved audio-visual vendor. All conference attendees acknowledge and consent that pictures will be taken by the official conference photographer and may be used for purposes such as the marketing of future events.

PLENARY SESSIONS

Plenary sessions take place in The Auditorium on Level 3.

POSTERS

Posters will be on display for the duration of their session as indicated in the programme. Poster presenters should have their posters in place 30 mins before their session starts and posters should be removed afterwards. Velcro will be placed on the boards before each session, so presenters can attach their posters to their board.

Monday, 21st August

Poster Sessions Mon.P1 – Mon.P4	11:00 – 13:00
Poster Sessions Mon.P5 – Mon.P8	14:30 – 16:30

Tuesday, 22nd August

Poster Sessions Tue.P1 – Tue.P4	10:00 – 12:00
Poster Sessions Tue.P5 – Tue.P8	13:30 – 15:30
Poster Sessions Tue.P9 – Tue.P12	16:00 – 18:00

Wednesday, 23rd August

Poster Sessions Wed.P1 – Wed.P3	10:00 – 12:00
Poster Sessions Wed.P4 – Wed.P7	13:30 – 15:30
Poster Sessions Wed.P8 – Wed.P10	16:00 – 18:00

Thursday, 24th August

Poster Sessions Thu.P1 – Thu.P4	10:00 – 12:00
Poster Sessions Thu.P5 – Thu.P7	13:30 – 15:30

PROGRAMME

A detailed scientific programme is listed on the following pages. The programme and abstracts are also available to view through the conference app and full papers are available through the online archive of the ISCA website.

SHOPPING

Shops in Ireland are mostly open from 09:00 - 18:00 on Monday - Saturdays with later hours on Thursday evenings.

Most major stores/shops open on Sunday – often with reduced opening times from 12:00 – 18:00.

SHOW AND TELL DEMONSTRATIONS

Show and Tell demonstrations are located on the foyer of Level 3.

Monday, 21st August – 14:30 – 16:30	Health
Tuesday, 22nd August – 13:30 – 15:30	Tools
Wednesday, 23rd August – 13:30 – 15:30	Learning
Thursday, 24th August – 13:30 – 15:30	Media

SMOKING

Smoking is not permitted in Ireland in any public building, and there is no smoking allowed in any of the meeting rooms or public spaces. There are designated smoking areas outside buildings and delegates are requested not to litter in these areas. The smoking ban applies to all restaurants, bars, cafes, and all public venues in Ireland.

SUSTAINABILITY

CCD Hospitality take care to ensure that all their products are considered eco-friendly. 100% recycled napkins and wooden stir sticks are used, and all disposable coffee cups are broken down to SRF waste.

In addition, the vast majority of food produce, including all beef and chicken supplies, are locally sourced. This ensures meals are fresh and in season whilst also supporting local farmers. Furthermore, all chocolate, tea and coffee supplies are fair trade. CCD Cleaning also use reusable micro-fibre cloths and mops made from recyclable materials that are laundered on site, as well as recycled paper products and re-fillable soap dispensers.

There is a comprehensive waste management policy in place to help manage the generation and segregation of waste. We continually work hard to monitor and improve our recycling figures, which rank consistently above 95%. CCD Cleaning and CCD Hospitality work in tandem to assess how to best manage the creation, segregation, and recycling of waste, not only generally within the building, but also for every event. As part of this initiative, there are custom-built recycle friendly bins to help delegates help in our mission to reduce, reuse, and recycle.

To ensure minimum water usage, sensor taps in all wash hand basins and sensor flushes in all urinals are used. The recent installation of a rainwater harvesting system also enables us to divert rainwater to storage tanks for use in systems which use non-potable water. This rainwater would otherwise have gone straight to the drainage network.

TIPPING

It is generally customary to leave a small gratuity (10%) for services in restaurants, if good service is provided. Tips for taxis and any porter services are at your discretion.

VOLTAGE

Throughout Ireland 220V is the standard supply. Flat three-pin plugs are used.

Water

A drinking water fountain is located on the foyers of the CCD.

Wi-Fi

Wi-Fi access is available throughout the Convention Centre Dublin. Delegates should select the INTERSPCH option, open their browser and hit "Connect". You may be disconnected after 1-2 hours, to keep the signal available for those using it. If disconnected, you may use the same instructions to reconnect.

Workspace

There is a quiet workspace available for delegates in Wicklow Meeting Room 2. Delegates are requested not to take calls in this space as it intended as a quiet room, but there are some tables available to work from.

ISCA Ethics for Authors and Attendees

INTERSPEECH 2023 incorporates the ISCA Code of Ethics for Authors from <https://www.isca-speech.org/iscaweb/index.php/about-isca?id=279>

ISCA is committed to publishing high-quality journals and conference proceedings. To this end, all authors are requested to ensure they adhere to ethical standards. Authors should meet the following standards:

- » The work does not include fabrication, falsification, or any kind of data breach. Authors should retain their code and maintain a log of the data that produced the results in their paper. Authors are also encouraged to make their code and dataset freely available.
- » The work does not include plagiarism or significant self-plagiarism. The work must be original, and any paper which significantly overlaps with previous work is not allowed. Proper reference to previous work is also required. Verbatim copying of work that has been distributed but not refereed, such as technical reports and arXiv articles, is permitted only if the authors are the same. ISCA (and conference organizers or journal editors) may use tools to detect (self-)plagiarism and reject papers without review. The work may not be submitted to any other conference, workshop or journal during the review process.
- » The work does not use figures, photographs, or any other kind of content whose copyright is not owned by or granted to the authors, except for proper quotations allowed by the copyright law. ISCA (and conference organizers or journal editors) may request authors to provide evidence of permission to use the content for their work.
- » The work does not include inappropriate content in terms of human rights. ISCA (and conference organizers or journal editors) may request authors to provide evidence of approval from the host Ethics Committee (Institutional Review Board or equivalent) that the work meets their Institution's ethical requirements, and/or explicit consent from the human subjects involved in the work.
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Monday 21 August 2023

	The Auditorium	Wicklow Hall 2	Liffey Hall 2	Liffey Hall 1	Wicklow Hall 1	Liffey Meeting Room 2	EcoCem Room	Forum Poster Area 1	Forum Poster Area 2	Forum Poster Area 3	Forum Poster Area 4
08:30 – 09:30	Opening Session [The Auditorium]										
09:30 – 10:30	Keynote 1 ISCA Medallist [The Auditorium] - Shrikanth Narayanan - Bridging Speech Science and Technology — Now and Into the Future										
10:30 – 11:00	Break										
11:00 – 13:00	Mon-O1 Speech Synthesis: Prosody and Emotion	Mon-O2 Self-Supervised Learning in ASR	Mon-O3 Prosody	Mon-O4 Statistical Machine Translation	Mon-O5 Speech Production	Mon-O6 Dysarthric Speech Assessment	Mon-O7 Speech Coding: Transmission and Enhancement	Mon-P1 Analysis of Speech and Audio Signals 1	Mon-P2 Speech Recognition - Modeling 1	Mon-P3 Speech Recognition - Architecture 1	Mon-P4 Speech Recognition - New Applications 1
13:00 – 14:30	Break										
14:30 – 16:30	Mon-O8 Lexical and Language Modeling for ASR	Mon-O9 Language Identification and Diarization	Mon-O10 Speech Quality Assessment	Mon-O11 Feature Modeling for ASR	Mon-O12 Interfacing Speech Technology and Phonetics	Mon-O13 Speech Synthesis: Multilinguality	Mon-O14 Speech Emotion Recognition 1	Mon-P5 Speech Coding and Enhancement 1	Mon-P6 Spoken Dialog Systems and Conversational Analysis 1	Mon-P7 Speech Recognition - Modeling 2	Mon-P8 Speech Recognition - New Applications 2

+ 14:30–16:30 **Special Session: Assessing and Mitigating AI Bias in Speech Processing Systems (Panel Discussion)** [Wicklow Meeting Room 1]

+ 14:30–16:30 Show and Tell: Health applications and emotion recognition [Show and Tell Area]

Tuesday 22 August 2023

	The Auditorium	Wicklow Hall 2	Liffey Hall 2	Liffey Hall 1	Wicklow Hall 1	Liffey Meeting Room 2	EcoCem Room	Forum Poster Area 1	Forum Poster Area 2	Forum Poster Area 3	Forum Poster Area 4
08:30 – 09:30	Keynote 2 [The Auditorium] - Virginia Dignum - Beyond the AI hype: Balancing Innovation and Social Responsibility										
09:30 – 10:00	Break										
10:00 – 12:00	Tue-O1 Paralinguistics 1	Tue-O2 Speech Enhancement and Denoising	Tue-O3 Speech Synthesis: Evaluation	Tue-O4 Neural-based Speech and Acoustic Analysis	Tue-O5 End-to-end Spoken Dialog Systems	Tue-S1 Biosignal-enabled Spoken Communication	Tue-S2 DiGo - Dialog for Good	Tue-P1 Speech Recognition - Architecture 2	Tue-P2 Speech Recognition - Modeling 3	Tue-P3 Speech, Voice, and Hearing Disorders 1	Tue-P4 SLT, IR, Summarization, Resources, and Evaluation 1
12:00 – 13:30	Break										
13:30 – 15:30	Tue-O6 Speech Recognition - New Applications 3	Tue-O7 Spoken Term Detection and Voice Search	Tue-O8 Models for Streaming ASR	Tue-O9 Source Separation	Tue-O10 Speech Perception	Tue-S3 Speech and Language in Health 1	Tue-O11 Phonetics and Phonology: Languages and Varieties	Tue-P5 Speech Synthesis and Voice Conversion	Tue-P6 SLT, IR, Summarization, Resources, and Evaluation 2	Tue-P7 Paralinguistics 2	Tue-P8 Speaker and Language Identification 1
15:30 – 16:00	Break										
16:00 – 18:00	Tue-O12 Novel Transformer Models for ASR	Tue-O13 Speaker Recognition 1	Tue-O14 Voice Conversion	Tue-O15 Cross-lingual and Multilingual ASR	Tue-O16 Pathological Speech Analysis 1	Tue-S4 Speech and Language in Health 2	Tue-O17 Multimodal Speech Emotion Recognition	Tue-P9 Analysis of Speech and Audio Signals 2	Tue-P10 Speech Coding and Enhancement 2	Tue-P11 Spoken Dialog Systems and Conversational Analysis 2	Tue-P12 Phonetics, Phonology, and Prosody 1

+ 13:30–15:30 Show and Tell: Speech tools, speech enhancement, speech synthesis [Show and Tell Area]

Wednesday 23 August 2023

	The Auditorium	Wicklow Hall 2	Liffey Hall 2	Liffey Hall 1	Wicklow Hall 1	Liffey Meeting Room 2	EcoCem Room	Forum Poster Area 1	Forum Poster Area 2	Forum Poster Area 3	Forum Poster Area 4
08:30 – 09:30	Keynote Discussion Panel: End-to-end Models - Friend or Foe of Speech Research [The Auditorium]										
09:30 – 10:00	Break										
10:00 – 12:00	Wed-O1 Analysis of Neural Speech Representations	Wed-O2 End-to-end ASR	Wed-O3 Speech Coding: Privacy	Wed-O4 Spoken Language Understanding, Summarization, and IR	Wed-O5 Speech Synthesis: Representation Learning	Wed-S1 Invariant and Robust Pre-trained Acoustic Models	Wed-O6 Pathological Speech Analysis 2	Wed-P1 Speech Recognition - Architecture 3	Wed-P2 Speaker and Language Identification 2	Wed-P3 Speech Perception, Production, and Acquisition 1	
12:00 – 13:30	Break										
13:30 – 15:30	Wed-O7 Acoustic Model Adaptation for ASR	Wed-O8 Speech Synthesis: Expressivity	Wed-O9 Multi-modal Systems	Wed-O10 Question Answering from Speech	Wed-O11 Socio-phonetics	Wed-S2 Multi-talker Methods in Speech Processing	Wed-O12 Speaker and Language Diarization	Wed-P4 Analysis of Speech and Audio Signals 3	Wed-P5 Speech Coding and Enhancement 3	Wed-P6 SLT, IR, Summarization, Resources, and Evaluation 3	Wed-P7 Speech Emotion Recognition 2
15:30 – 16:00	Break										
16:00 – 18:00	Wed-O13 Anti-Spoofing for Speaker Verification	Wed-O14 Speech Coding: Intelligibility	Wed-O15 New Computational Strategies for ASR Training and Inference	Wed-O16 Health-Related Speech Analysis	Wed-O17 Automatic Audio Classification and Audio Captioning	Wed-S3 MERLion CCS Challenge	Wed-O18 Resources for Spoken Language Processing	Wed-P8 Speech Synthesis	Wed-P9 Speech Perception, Production, and Acquisition 2	Wed-P10 Speech Recognition - Modeling 4	

+ 13:30–15:30 Show and Tell: Language learning and educational resources [Show and Tell Area]

Thursday 24 August 2023

	The Auditorium	Wicklow Hall 2	Liffey Hall 2	Liffey Hall 1	Wicklow Hall 1	Liffey Meeting Room 2	EcoCem Room	Forum Poster Area 1	Forum Poster Area 2	Forum Poster Area 3	Forum Poster Area 4
08:30 – 09:30	Keynote 3 [The Auditorium] - Martine Grice - What's in a Rise? The Relevance of Intonation for Attention Orienting										
09:30 – 10:00	Break										
10:00 – 12:00	Thu-O1 Speech Synthesis: Controllability and Adaptation	Thu-O2 Search Methods and Decoding Algorithms for ASR	Thu-O3 Speech Signal Analysis	Thu-O4 Speech Emotion Recognition 3	Thu-O5 Dialog Management	Thu-S1 Connecting Speech-science and Speech-technology for Children's Speech	Thu-O6 Speaker Recognition 2	Thu-P1 Speech Synthesis: Expressivity	Thu-P2 Phonetics, Phonology, and Prosody 2	Thu-P3 Speech Recognition - Modeling 5	Thu-P4 Speech, Voice, and Hearing Disorders 2
12:00 – 13:30	Break										
13:30 – 15:30	Thu-O7 Speech Activity Detection and Modeling	Thu-O8 Multilingual Models for ASR	Thu-O9 Speech Enhancement and Bandwidth Expansion	Thu-O10 Articulation	Thu-O11 Perception of Paralinguistics	Thu-S2 Neural Processing of Speech and Language	Thu-O12 Technologies for Child Speech Processing	Thu-P5 Speech Synthesis: Multilinguality; Evaluation	Thu-P6 Speaker and Language Identification 3	Thu-P7 Analysis of Speech and Audio Signals 4	
15:30 – 16:00	Break										
16:00 – 17:00	Closing Session [The Auditorium]										

+ 13:30–15:30 Show and Tell: Media and commercial applications [Show and Tell Area]



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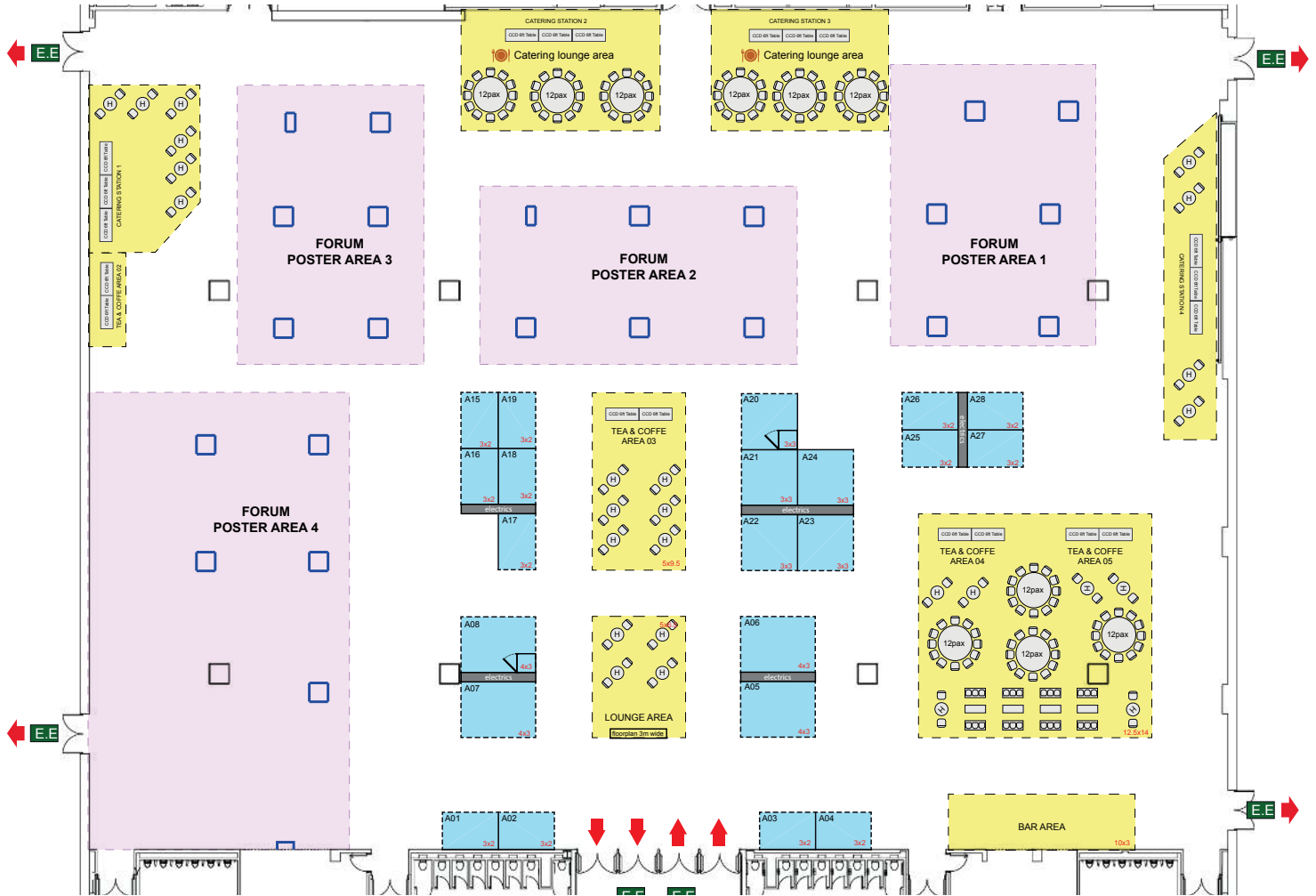
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Bridging Speech Science and Technology – Now and Into the Future

Monday, 21 August, 09:30 – 10:30 – The Auditorium

Shrikanth (Shri) Narayanan

University of Southern California, Los Angeles, CA, United States of America

Abstract

Speech research is remarkable in so many ways – in its essential human-centeredness, the rich interconnections between the science and technology, and its wide-ranging impact that is both fundamental and applied. Crucial advances in speech science research catalyze and leverage technological advances across the machine intelligence ecosystem, from sensing and imaging to signal processing and machine learning. Likewise, creation of speech-centric societal applications benefits from an understanding of how humans produce, process and use speech in communication. In these complementary endeavors, two intertwined lines of inquiry endure: illuminating the rich information tapestry and inherent variability in speech and creating trustworthy speech technologies.

This talk will highlight some advances and possibilities in this multifaceted speech research realm. The first is capturing and modeling the human vocal instrument during speaking and how related technological and clinical applications leverage this technology. The second focuses on speech-based informatics tools to support research and clinical translation related to human health and wellbeing. Finally, the talk will highlight the critical goal of designing trustworthy speech and spoken language machine intelligence tools that are inclusive, equitable, robust, safe, and secure.

Biography

Shrikanth (Shri) Narayanan is University Professor and Niki & C. L. Max Nikias Chair in Engineering at the University of Southern California (USC), where he is Professor of Electrical & Computer Engineering, Computer Science, Linguistics, Psychology, Neuroscience, Pediatrics, and Otolaryngology - Head & Neck Surgery, Director of the Ming Hsieh Institute and Research Director of the Information Sciences Institute. Prior to USC, he was with AT&T Bell Labs and AT&T Research. His interdisciplinary research focuses on human-centered sensing/imaging, signal processing, and machine intelligence centered on human communication, interaction, emotions, and behavior. He is a Fellow the Acoustical Society of America, IEEE, ISCA, the American Association for the Advancement of Science, the Association for Psychological Science, the Association for the Advancement of Affective Computing, the American Institute for Medical and Biological Engineering, and the National Academy of Inventors. He is a Guggenheim Fellow and member of the European Academy of Sciences and Arts, and a recipient of many research and education awards. He has published widely and his inventions have led to technology commercialization including through startups he co-founded: Behavioral Signals Technologies focused on AI based conversational assistance and Lyssn focused on mental health care and quality assurance.



Beyond the AI hype: Balancing Innovation and Social Responsibility

Tuesday, 22 August, 08:30 – 09:30 – The Auditorium

Virginia Dignum
Umeå University, Sweden

Abstract

AI can extend human capabilities but requires addressing challenges in education, jobs, and biases. Taking a responsible approach involves understanding AI's nature, design choices, societal role, and ethical considerations. Recent AI developments, including foundational models, transformer models, generative models, and large language models (LLMs), raise questions about whether they are changing the paradigm of AI, and about the responsibility of those that are developing and deploying AI systems. In all these developments, it is vital to understand that AI is not an autonomous entity but rather dependent on human responsibility and decision-making.

In this talk, I will further discuss the need for a responsible approach to AI that emphasizes trust, cooperation, and the common good. Taking responsibility involves regulation, governance, and awareness. Ethics and dilemmas are ongoing considerations, but require understanding that trade-offs must be made and that decision processes are always contextual. Taking responsibility requires designing AI systems with values in mind, implementing regulations, governance, monitoring, agreements, and norms. Rather than viewing regulation as a constraint, it should be seen as a stepping stone for innovation, ensuring public acceptance, driving transformation, and promoting business differentiation. Responsible Artificial Intelligence (AI) is not an option but the only possible way to go forward in AI.

Biography

Virginia Dignum is Professor of Responsible Artificial Intelligence at Umeå University, Sweden and director of WASP-HS, the Wallenberg Program on Humanities and Society for AI, Autonomous Systems and Software, the largest Swedish national research program on fundamental multidisciplinary research on the societal and human impact of AI. She is a member of the Royal Swedish Academy of Engineering Sciences (IVA), and a Fellow of the European Artificial Intelligence Association (EURAI). She is a member of the Global Partnership on AI (GPAI), the World Economic Forum's Global Artificial Intelligence Council, the UNESCO expert group on the implementation of AI recommendations, the Executive Committee of the IEEE Initiative on Ethically Aligned Design, and of ALLAI, the Dutch AI Alliance. She was a member of EU's High Level Expert Group on Artificial Intelligence and leader of UNICEF's guidance for AI and children. She is author of "Responsible Artificial Intelligence: developing and using AI in a responsible way".



What's in a Rise? The Relevance of Intonation for Attention Orienting

Thursday, 24 August, 08:30 – 09:30 – The Auditorium

Martine Grice
University of Cologne, Germany

Abstract

In this talk I will explore why and how intonational rises are used to orient attention towards the words and phrases bearing them. The attention orienting function of rising pitch is known outside the linguistic domain, with evidence from auditory looming, a phenomenon whereby a signal that increases in loudness or pitch appears to be approaching the listener and is perceived as an immediate threat.

This attention orienting function extends to speech communication, where rises in pitch are crucial for directing listeners' attention to the most important parts of the linguistic message. I will provide evidence from event related brain potentials that such rises affect both preattentive and conscious attention. Moreover, the lack of a rise can, in some situations, direct attention away from parts of the message, leading to information being missed. I will also discuss the influence of intonational rises on short-term memory, showing that rises can boost recall of items in a list. This effect can be local to a particular item if the rise is accentual, or more global if the rise is at the edge of a domain. However, despite the cross-linguistic effect of rises on attention, their influence can be impacted by language specific prosodic structure and linguistic expectations.

Biography

Martine Grice is the Professor of Phonetics at the University of Cologne. She has served as President of the Association of Laboratory Phonology and is board member of Journal of Phonetics and Laboratory Phonology, and editor-in-chief of Studies in Laboratory Phonology.

Her work on intonation theory investigates complex tonal structures at heads and edges of prosodic constituents and at the interplay between tune and text. Besides her analyses of Italian, English and German, she has tackled particularly challenging languages, such as Tashlhiyt Berber (where sonorant material for bearing intonational tones can be scarce), Vietnamese (where intonation can overwrite tone) and Maltese (where lexical and post-lexical prominences do not always align).

Her current projects deal with attention orienting, looking for evidence of prosodic structure in the effect of prosody on serial recall and processing of incongruence, individual-specific patterns in face-to-face dyadic communication, with a focus on autism, and modelling of prominence in language.

End-to-End Models – Friend or Foe of Speech Research?

Wednesday, 23 August – 08:30 – 09:30 – The Auditorium



Roger Moore - Panel Chair
University of Sheffield



Dilek Hakkani-Tür



Julia Hirschberg
Columbia University



Dan Jurafsky
Stanford University



Ralf Schlüter
RWTH Aachen University

End-to-end architectures have revolutionised performance in many areas of speech technology. You no longer need to be an expert in speech to build, for example, an ASR system with performance our community only dreamed of a decade ago. INTERSPEECH has always valued the symbiotic relationship between speech science and speech technology, with linguists, phoneticians, computer scientists and engineers all learning from one another. Put simply, we need each other, or so we have always liked to believe. But where now? Does the dominance of end-to-end architectures, coupled with vast amounts of speech data and compute power mean we can learn anything we need to directly from a speech signal, without needing to understand what's going on? Can the speech technologists go it alone? Do speech scientists care? Can speech technology and speech science working alongside one another achieve greater research outcomes than apart?

This Keynote session sees a panel of experts from our INTERSPEECH community discuss this important topic.

Survey Talks

Corinne Fredouille

Avignon Université – LIA
France

Deep Learning and Explainability/Interpretability for Pathological Voice and Speech Analysis

Monday, 21st August, 11:00 - 13:00, Wicklow Hall 1

Jan Skoglund

Google
USA

On Speech Compression

Monday, 21st August, 11:00 - 13:00, Ecocem Room

Petra Wagner

Bielefeld University
Germany

Reinhold Haeb-Umbach

University of Paderborn
Germany

How Neural Network Architectures in Speech Technology Can Inform Basic Research in Phonetics, and Vice Versa

Monday, 21st August, 14:30 - 16:30, Wicklow 1

Oldrich Plchot

Brno University of Technology
Czech Republic

Current Trends in Speaker Verification / Extracting Speaker-Related Representations from Speech

Tuesday, 22nd August, 16:00 - 18:00, Wicklow Hall 2

Zofia Malisz

KTH Royal Institute of Technology
Sweden

Rhythm and Timing in Speech Synthesis

Wednesday, 23rd August, 13:30 - 15:30, Wicklow Hall 2

Nicole Holliday

Pomona College
USA

A Sociolinguistic Perspective on Speech Technology

Wednesday, 23rd August, 13:30 - 15:30, Wicklow Hall 1

Wenwu Wang

University of Surrey
United Kingdom

Automated Audio Captioning: Audio-Text Cross-Modal Learning

Wednesday, 23rd August, 16:00 - 18:00, Wicklow Hall 1

Tamás Csapó

Budapest University of Technology and Economics
Hungary

Ultrasound-to-Speech Conversion

Thursday, 24th August, 13:30 - 15:30, Liffey Hall 1

Paola Garcia

Johns Hopkins University
USA

Speech and Language Technology for Children

Thursday, 24th August, 13:30 - 15:30, Ecocem Room

Tutorials

The following Tutorials are available at INTERSPEECH 2023. These will take place on Sunday, 20th August in the Convention Centre Dublin.

Morning Tutorials

T1: Speech Assessment Metrics: From Psychoacoustics to Machine Learning – Fen Chen and Yu Tsao **Liffey Meeting Room 2**

Fei Chen (Department of Electrical and Electronic Engineering, Southern University of Science and Technology, China) and Yu Tsao (The Research Center for Information Technology Innovation (CITI), Academia Sinica, Taiwan).

An important measure of the effectiveness of speech technology applications is the intelligibility and quality of the processed speech signals provided by these applications. A number of speech evaluation metrics have been derived to quantitatively measure specific properties of speech signals. Objective speech assessment metrics have been developed as surrogates for human listening tests. Speech assessment metrics based on deep learning-based models have garnered significant attention.

Fei Chen received the B.Sc. and M.Phil. degrees from the Department of Electronic Science and Engineering, Nanjing University in 1998 and 2001, respectively, and the Ph.D. degree from the Department of Electronic Engineering, The Chinese University of Hong Kong in 2005. He continued his research as post-doctor and senior research fellow in University of Texas at Dallas (supervised by Prof. Philipos C. Loizou) and The University of Hong Kong. He is now a full professor at Department of Electrical and Electronic Engineering, Southern University of Science and Technology (SUSTech), Shenzhen, China. Dr. Chen is leading the speech and physiological signal processing (SPSP) research group in SUSTech, with research focus on speech perception, speech intelligibility modeling, speech enhancement, and assistive hearing technology. He published over 100 journal papers and over 100 conference papers in IEEE journals/conferences, Interspeech, Journal of Acoustical Society of America, etc. He was tutorial speakers of Interspeech 2022, EUSIPCO2022, APSIPA 2021, Interspeech 2020, and APSIPA 2019, and organized special session “Signal processing for assistive hearing devices” at ICASSP 2015. He received the best presentation award in the 9th Asia Pacific Conference of Speech, Language and Hearing. Dr. Chen is an APSIPA distinguished lecturer (2022-2023), and is now serving as associate editor of Biomedical Signal Processing and Control.

Yu Tsao received the B.S. and M.S. degrees in electrical engineering from National Taiwan University, Taipei, Taiwan, in 1999 and 2001, respectively, and the Ph.D. degree in electrical and computer engineering from the Georgia Institute of Technology, Atlanta, GA, USA, in 2008. From 2009 to 2011, he was a Researcher with the National Institute of Information and Communications Technology, Tokyo, Japan, where he engaged in research and product development in automatic speech recognition for multilingual speech-to-speech translation. He is currently a Research Fellow (Professor) and the Deputy Director with the Research Center for Information Technology Innovation, Academia Sinica, Taipei, Taiwan. He is also a Jointly Appointed Professor with the Department of Electrical Engineering, Chung Yuan Christian University, Taoyuan, Taiwan. His research interests include assistive oral communication technologies, audio coding, and bio-signal processing. He is currently an Associate Editor for the IEEE/ACM TRANSACTIONS ON AUDIO, SPEECH, AND LANGUAGE PROCESSING and IEEE SIGNAL PROCESSING LETTERS. He was the recipient of the Academia Sinica Career Development Award in 2017, national innovation awards in 2018–2021, Future Tech Breakthrough Award 2019, and Outstanding Elite Award, Chung Hwa Rotary Educational Foundation 2019–2020. He is the corresponding author of a paper that received the 2021 IEEE Signal Processing Society (SPS), Young Author, Best Paper Award.

T2: Recent Advances in Speech Processing, Multi-talker ASR and Diarization for Cocktail Party Problem – Shi-Xiong Zhang, Yong Xu, Shinji Watanabe and Dong Yu

Liffey Hall 1

Shi-Xiong Zhang (Tencent AI lab, Bellevue, USA), Yong Xu (Tencent AI lab, Bellevue, USA), Shinji Watanabe (Carnegie Mellon University, Pittsburgh, USA) and Dong Yu (Tencent AI lab, Bellevue, USA).

A new trend in today's speech fields is to develop systems towards solving more wild and more challenging scenarios such as multiple simultaneous speakers in meetings or cocktail party environments. Significant research activity has occurred in recent years in these fields and great advances have been made. This tutorial will bring together all the state-of-the-art researches on solving "Who said What and When" in multi-talker scenarios, including: 1) front-end speech separation and beamforming; back-end speaker diarization and speech recognition; 2) modeling techniques for single-channel, multi-channel or audio-visual inputs; 3) the pipeline systems of multiple speech modules vs the end-to-end integrated neural networks. The goal is to give audiences a complete picture of this cross-disciplinary field and enlighten the future directions and collaborations.

Shi-Xiong (Austin) Zhang received the Ph.D. degree in the Cambridge University in 2014. From 2014 to 2018, he was a senior speech scientist at Microsoft, speech group. Currently he is a principal researcher at Tencent AI Lab leading the multi-modal research for speech recognition, speaker diarization, speech separation. He was granted the "IC Greatness award" in Microsoft in 2015 for his contribution on the "Personalized Hey Cortana" system in Windows 10. He was nominated a 2011 Interspeech Best Student Paper Award for his paper "Structured Support Vector Machines for Noise Robust Continuous Speech Recognition". Shi-Xiong has served as a Program Committee member of APSIPA and the Area Chair of several international conferences, including ICASSP, Interspeech and ASRU in 2021 and 2022.

Yong is a principal researcher in Tencent AI lab, Bellevue, USA. His current research interests include speech enhancement, neural beamforming, etc. In recent years, he proposed and published several all-neural beamforming technologies. He received the 2018 IEEE Signal Processing Society Best Paper award for his work on DNN-based speech enhancement. He is a member of the IEEE Signal Processing Society Speech and Language Technical Committee (SLTC).

Shinji Watanabe is an Associate Professor at Carnegie Mellon University, Pittsburgh, PA. He received his B.S., M.S., and Ph.D. (Dr. Eng.) degrees from Waseda University, Tokyo, Japan. He was a research scientist at NTT Communication Science Laboratories, Kyoto, Japan, from 2001 to 2011, a visiting scholar at Georgia institute of technology, Atlanta, GA, in 2009, and a senior principal research scientist at Mitsubishi Electric Research Laboratories (MERL), Cambridge, MA USA from 2012 to 2017. Before the move to Carnegie Mellon University, he was an associate research professor at Johns Hopkins University, Baltimore, MD, USA, from 2017 to 2020. His research interests include automatic speech recognition, speech enhancement, spoken language understanding, and machine learning for speech and language processing. He has published over 300 papers in peer-reviewed journals and conferences and received several awards, including the best paper award from the IEEE ASRU in 2019. He is a Senior Area Editor of the IEEE Transactions on Audio Speech and Language Processing. He was/has been a member of several technical committees, including the APSIPA Speech, Language, and Audio Technical Committee (SLA), IEEE Signal Processing Society Speech and Language Technical Committee (SLTC), and Machine Learning for Signal Processing Technical Committee (MLSP). He is an IEEE Fellow.

Dong Yu (M'97 SM'06 F'18) is an IEEE Fellow, an ISCA Fellow, and an ACM distinguished scientist. He currently works as a distinguished scientist and vice general manager at Tencent AI Lab. Prior to joining Tencent in 2017, he was a principal researcher at Microsoft Research (Redmond), Microsoft, where he joined in 1998. He has been focusing his research on speech processing and esp. neural speech enhancement and separation in recent years and has published two monographs and 300+ papers. His works have been cited over 50,000 times per Google Scholar and have been recognized by the prestigious IEEE Signal Processing Society 2013, 2016, 2020, and 2022 best paper awards.

T3: Resource-Efficient and Cross-Modal Learning Toward Foundation Models – Ping-Yu Chen, Huck Yang, Dr. Shalini Ghosh and Dr. Marcel Worring

Liffey Hall 2

Pin-Yu Chen (IBM AI and MIT-IBM Watson AI Lab, NY, USA), C. -H Huck Yang (Amazon Alexa Speech, WA, USA), Shalini Ghosh (Amazon Alexa Speech, WA, USA) and Marcel Worring (Universiteit van Amsterdam, the Netherlands).

In this tutorial, the first session will introduce the theoretical advantages of large-scale pre-trained foundation models by the universal approximation theory and how to update the large-scale speech and acoustic models effectively using parameter-efficient learning. Next, our second session will introduce how we can do effective cross-modal pre-training of representations across visual, speech, and language modalities, which can be learned without necessarily needing aligned data across modalities and can benefit tasks in individual modalities as well. Finally, our third session will explore different applications on multimedia processing benefited from the pre-training of acoustic and language modelling with benchmark performance.

Pin-Yu Chen is a principal research scientist at IBM Thomas J. Watson Research Center, Yorktown Heights, NY, USA. He is also the chief scientist of RPI-IBM AI Research Collaboration and PI of ongoing MIT-IBM Watson AI Lab projects. Dr. Chen received his Ph.D. in electrical engineering and computer science from the University of Michigan, Ann Arbor, USA, in 2016. Dr. Chen's recent research focuses on adversarial machine learning and robustness of neural networks. His long-term research vision is to build trustworthy machine learning systems. He received the IEEE GLOBECOM 2010 GOLD Best Paper Award and UAI 2022 Best Paper Runner-Up Award.

Huck Yang works in the Language Modeling team at Amazon Alexa Speech Recognition. He did his Ph.D. in the School of Electrical and Computer Engineering at the Georgia Institute of Technology in Atlanta, GA, USA, with Wallace H. Coulter fellowship. He received a B.S. degree from National Taiwan University. His recent research interests focus on in-context parameter-efficient learning, such as residual adapter, model reprogramming, prompt-tuning, and differential privacy for speech processing. Previously, he was a research intern at Google, Amazon, Hitachi, and EPFL.

Dr. Shalini Ghosh is a Principal Research Scientist at Amazon Alexa AI. Previously, she served as a Director/Principal Scientist at Samsung Research America, a Principal Scientist at SRI International, and a Visiting Scientist at Google Research. She earned her Ph.D. from the University of Texas at Austin. With over 15 years of experience as an ML researcher, Dr. Ghosh specializes in deep learning with applications to various domains, including multimedia processing, video understanding, and multi-modal pre-training using image, text, and audio data.

Dr. Marcel Worring is full professor in Multimedia Analytics in the Informatics Institute where he leads the MultiX group. The research in MultiX focuses on developing AI techniques for getting the richest information possible from the data (image/video/text/graphs) interactions surpassing human and machine intelligence, and visualizations blending it all in effective interfaces for applications in health, forensics and law enforcement, cultural heritage, urban livability, and social media analysis.

T4: Advancement in Speech and Sound Processing for Cochlear Implants: Science, Technology, ML and Cloud Connectivity – Juliana Saba, Ram Charan Chandra Shekar, Oldooz Hazrati, Mahan Azadpour and John H.L. Hansen

Liffey Meeting Room 3

Juliana Saba (Centre for Robust Speech Systems, The University of Texas, USA), Ram C.M.C Shekar (Centre for Robust Speech Systems, The University of Texas, USA), Oldooz Hazrati (Food & Drug Administration, USA), Mahan Azadpour (NYU Grossman School of Medicine, USA) and John H.L. Hansen (Centre for Robust Speech Systems, The University of Texas, USA).

This tutorial will provide an overview of speech and sound perception specific for cochlear implant users and discuss how human subjects research is conducted through the use of research platforms. Signal processing aspects, such as sound coding strategies, the translation of acoustic parameters in the electric space, and performance of these clinical devices in various listening situations will be discussed. Two types of strategies will be provided: speech-specific and non-speech. A brief explanation of advancements in speech processing, research platforms, and cloud-based technology as well as future directions will be discussed.

Juliana N. Saba graduated from the University of Texas at Dallas, Richardson, TX with degrees in Biomedical Engineering (B.S., 2015; M.S., 2019) and Electrical Engineering (PhD, 2021). After graduating in the first accredited class of bioengineering, she began work on her doctoral dissertation focused on incorporating physiological and subject-specific features in signal processing strategies for cochlear implant users. She has a diverse publication profile from involvement in the maintenance of cochlear implant research platforms and collaborations in the dental field. Prior to joining the Cochlear Implant Processing Laboratory, she was involved in a bioengineering laboratory assisting in the design and development of novel implant-abutment systems and lead investigations related to electrochemical and cytotoxicity effects of dental cements in vitro. Juli is currently a postdoctoral researcher in the CILab at UT-Dallas designing Lombard Effect perturbation strategies for cochlear implant users funded by NIH-NIDCD.

Ram Charan Chandra Shekar graduated from the University of Texas at Dallas, Richardson, TX with Ph.D in Electrical Engineering (2022). After finishing his Bachelor of Engineering and Master's in Technology in India, Ram worked at IBM as an Associate System Engineer. In 2016, Ram was admitted into the doctoral program in Electrical Engineering at UT Dallas. His doctoral thesis primarily focused on analysis and development of novel techniques for the improvement of perception of environmental sounds among cochlear implant users. He has also served as a teaching assistant for digital signal processing, linear algebra, digital systems and other courses. He has gained vast experience working in diverse research topics like: real time dynamic range compression and speech enhancement for hearing aids, safety analysis for cochlear implants, and novel techniques for advancement of non-speech (non-linguistic) sound perception among cochlear implant users. During his PhD, Ram interned with Texas Instruments and Meta (formerly Facebook) and worked on developing deep learning techniques for obstacle recognition using ultrasonic sensors, and advanced hear through filter for efficient representation of spatial audio. Currently, Ram is engaged as a post-doctoral researcher focusing on improving speech intelligibility among non-native English speakers, funded by NSF EAGER grant. Ram is also pursuing an post-graduate machine learning certificate.

Oldooz Hazrati received her Ph.D. in Electrical Engineering from The University of Texas at Dallas (UTD) in 2012, under the supervision of Dr. Philip Loizou with a research assistantship supported by grants from NIH and Cochlear Limited. She was a post-doctoral researcher in the Cochlear Implant and Speech Processing laboratories in Erik Jonsson School of Engineering & Computer Science, The University of Texas at Dallas from 2013-2015. Her research was supported by Cochlear Limited (PI: Oldooz Hazrati) and NIH. In September 2015, she became an adjunct faculty in the department of Electrical Engineering at UTD. Since January 2016, she is a senior staff fellow at the Food and Drug Administration (FDA), and currently serves as Lead Reviewer for FDA in the Communication Assistive Technologies area. She has published 12 journal papers and 17 conference papers during her work at UTD on speech processing for Cochlear Implants.

Mahan Azadpour obtained his degrees in electrical and biomedical engineering from Sharif University of Technology and University of Tehran, Iran. He then received PhD in cognitive neuroscience from SISSA (International School for Advanced Studies) in Trieste, Italy. His research interests include auditory psychophysics, speech perception, electrophysiology, and neural modeling of auditory perception. The primary focus of his research has been to improve assistive technologies for hearing impaired individuals—in particular, to improve sound coding and stimulation strategies for cochlear implant and auditory brainstem implant devices.

John H.L. Hansen received his Ph.D. and M.S. degrees in Electrical Engineering from Georgia Institute of Technology, Atlanta, Georgia, in 1988 and 1983, and B.S.E.E. degree from Rutgers University, New Brunswick, N.J. in 1982. He joined University of Texas at Dallas (UTD), Erik Jonsson School of Engineering & Computer Science in 2005, where he is Associate Dean for Research and Professor of Electrical Engineering, and Professor in Brain and Behavioral Sciences (Speech & Hearing). At UTD, he holds the Distinguished Chair in Telecommunications Engineering, and established the Center for Robust Speech Systems (CRSS). From 1999-2005, he was with Univ. of Colorado Boulder, as Dept. Chair and Professor in Speech, Language, Hearing Sciences, and Professor in Electrical Engineering, and co-founded the Center for Spoken Language Research. From 1988-1998, he was with Duke Univ., Departments of Electrical and Biomedical Engineering, and founded the Robust Speech Processing Laboratory. He has served as IEEE Distinguished Lecturer, member of IEEE Signal Processing Society: Speech Technical Committee (TC Chair 2012-14) and Educational Technical Committee, Technical Advisor to U.S. Delegate for NATO (IST/TG-01), Associate Editor for

IEEE Trans. Speech & Audio Proc., Associate Editor for IEEE Signal Proc. Letters, Editorial Board Member for IEEE Signal Proc. Magazine, member of Speech Communications Technical Committee for Acoustical Society of America, and served as General Chair for Interspeech-2002 and Technical Chair for IEEE ICASSP-2010. Also served as Co-Chair for ISCA Interspeech-2022, and Tech. Chair for IEEE ICASSP-2024. He has supervised 99 thesis candidates, was recipient of the 2005 Univ. of Colorado Teacher Recognition Award, and author/co-author of 865 journal & conference papers in the field of speech processing and language technology, co-author of Discrete-Time Processing of Speech Signals, (IEEE Press, 2000). He served as ISCA President (2017-2021) and currently continues to serve on the ISCA Board as Treasurer.

Afternoon Tutorials

T5: Foundations, Extensions and Applications of Statistical Multichannel Speech Separation Models – Kazuyoshi Yoshii, Aditya Arie Nugraha, Mathieu Fontaine and Yoshiaki Bando **Liffey Meeting Room 3**

Kazuyoshi Yoshii (Kyoto University, Japan/SSU Team with AIP, RIKEN, Tokyo, Japan), Aditya Arie Nugraha (SSU Team with AIP, RIKEN, Tokyo, Japan), Mathieu Fontaine (LTCI, Télécom Paris, Palaiseau, France/SSU Team with AIP, RIKEN, Tokyo, Japan) and Yoshiaki Bando (Artificial Intelligence Research Centre (AIRC), National Institute of Advanced Industrial Science and Technology (AIST), Tokyo, Japan/SSU Team with AIP, RIKEN, Tokyo, Japan).

This tutorial aims to enlighten audio and speech researchers who are interested in source separation and speech enhancement on how to formulate a physics-aware probabilistic model that explicitly stands for the generative process of observed audio signals (direct problem) and how to derive its maximum likelihood estimator (inverse problem) in a principled manner. Under mismatched conditions and/or with less training data, the separation performance of supervised methods might be degraded drastically in the real world, as is often the case with deep learning-based methods that work well in controlled benchmarks. We show first that the state-of-the-art blind source separation (BSS) methods can work comparably or even better in the real world and play a vital role for drawing the full potential of deep learning-based methods. Secondly, this tutorial introduces how to develop an augmented reality (AR) application for smart glasses with real-time speech enhancement and recognition of target speakers.

Kazuyoshi Yoshii received M.S. and PhD degrees in informatics from Kyoto University, Kyoto, Japan, in 2005 and 2008, respectively. He is currently an Associate Professor with the Graduate School of Informatics, Kyoto University, and concurrently the Leader of the Sound Scene Understanding Team with the Center for Advanced Intelligence Project (AIP), RIKEN, Tokyo, Japan. He is also a member of the Audio and Acoustic Signal Processing (AASP) Technical Committee, Signal Processing Society (SPS), IEEE and a Distinguished Lecturer of Asia-Pacific Signal and Information Processing Association (APSIPA). His research interests include music informatics, audio and speech signal processing, and statistical machine learning. He presented 19 papers in IEEE TASLP, 3 papers in IEEE SPL, 28 papers in IEEE ICASSP, 11 papers in EUSIPCO, and 37 papers in ISMIR.

Aditya Arie Nugraha received the B.S. and M.S. degrees in electrical engineering from Institut Teknologi Bandung, Bandung, Indonesia, in 2008 and 2011, respectively, the M.E. degree in computer science and engineering from Toyohashi University of Technology, Toyohashi, Japan, in 2013, and the Ph.D. degree in informatics from Université de Lorraine, Nancy, France, and INRIA Nancy Grand-Est, France, in 2017. He is currently a Research Scientist of the Sound Scene Understanding Team with the AIP, RIKEN, Tokyo, Japan. His research interests include audio-visual signal processing and machine learning.

Mathieu Fontaine received an M.S. degree in applied and fundamentals mathematics from Université de Poitiers, Poitiers, France, in 2015, and a Ph.D. degree in informatics from Université de Lorraine and INRIA Nancy Grand-Est, France, in 2018. He was a Postdoctoral Researcher with the AIP, RIKEN, Tokyo, Japan. He is currently an Associate Professor with LTCI, Télécom Paris, Palaiseau, France. He is also a Visiting Researcher with the AIP, RIKEN, Tokyo, Japan. His research interests include machine listening topics, such as audio source separation, sound event detection, and speaker diarization using microphone arrays.

Yoshiaki Bando received M.S. and Ph.D. degrees in informatics from Kyoto University, Kyoto, Japan, in 2015 and 2018, respectively. He is currently a Senior Researcher with the Artificial Intelligence Research Center (AIRC), National Institute of Advanced Industrial Science and Technology (AIST), Tokyo, Japan. He is also a Visiting Researcher with the AIP, RIKEN, Tokyo, Japan. His research interests include microphone array signal processing, deep Bayesian learning, and robot audition.

T6: Advances in audio anti-spoofing and deepfake detection using graph neural networks and self-supervised learning – Jee-weon Jung, Hye-jin Shim, Hemlata Tak and Xin Wang

Liffey Hall 1

Jee-weon Jung (Naver corporation, Korea / Carnegie Mellon University, USA), Hye-jin Shim (University of Finland, Finland), Hemlata Tak (EURECOM, France) and Xin Wang (National Institute of Informatics, Japan).

This tutorial will delve into the latest advances in audio anti-spoofing and audio deepfake detection, driven by the application of graph neural networks and self-supervised learning. We will provide a comprehensive overview of the latest state-of-the-art techniques, including in-depth analysis and hands-on coding demonstrations. By attending this tutorial, participants will gain a thorough understanding of state-of-the-art audio anti-spoofing models and will be knowledgeable enough to experiment with these models and leverage them as future baselines.

Jee-weon Jung is a postdoctoral researcher at Carnegie Mellon University, USA. Previously he was a research Scientist at Clova, Naver Corporation, Republic of Korea. He received his Ph.D. degree from the University of Seoul, Republic of Korea. He has worked on speaker recognition, acoustic scene classification, audio spoofing detection, and related tasks. He was the main organizer of the Spoofing-Aware Speaker Verification Challenge, a special session at Interspeech 2022, and is one of the organizers of VoxSRC since 2022. He has published several papers with state-of-the-art models, including AASIST, for audio anti-spoofing using graph neural networks.

Hye-jin Shim is a postdoctoral researcher at the University of Eastern Finland. Her research interest includes Audio Anti-spoofing, Speaker Recognition, and Acoustic Scene Classification. She received her Ph.D. and M.S. degrees in computer science from the University of Seoul in 2022, and 2019, respectively. She is one of organizer of Spoofing-Aware Speaker Verification (SASV) and ASVspoo Challenge.

Hemlata Tak is a PhD candidate at EURECOM, France. She received her Master's degree in 2018 from DA-IICT, Gandhinagar, India. She co-organized the inaugural edition of the Spoof-Aware Speaker Verification (SASV) Challenge 2022. She is also a co-organiser of the ASVspoo 5 Challenge. Her research interests include voice biometrics, audio deepfake detection and anti-spoofing.

Xin Wang is a project assistant professor at the National Institute of Informatics, Japan. He received his Ph.D. degree from the Department of Informatics, SOKENDAI located at the National Institute of Informatics in 2018. He is one of the organisers of the ASVspoo Challenge 2019, 2021, and its latest edition. He is also one of the organisers of the Voice Privacy Challenge 2020 and 2022. He is on the appointed team of ISCA SIG on Security and Privacy in Speech Communication (SPSC). His research interests include speech anti-spoofing, speech privacy protection, and speech synthesis.

T7: Navigating the Evolving Landscape of Conversational AI for Digital Health: From Yesterday to Tomorrow – Dr. Tulika Saha, Abhisek Tiwari and Dr. Sriparna Saha

Liffey Meeting Room 2

Tulika Saha (University of Liverpool, United Kingdom), Abhisek Tiwari (Indian Institute of Technology Patna, India) and Sriparna Saha (Indian Institute of Technology Patna, India).

In the past few years, dozens of surveys have revealed a scarcity of healthcare professionals, particularly psychiatrists, limiting access to healthcare for severely ill individuals. With the motivation of efficiently utilizing doctors' time and providing an accessible platform for early diagnosis, clinical assistance using artificial intelligence is gaining immense popularity and demand in both research and industry communities. As a result, telemedicine has grown substantially in recent years, particularly since the COVID outbreak. The tutorial aims to present a comprehensive overview of the use of conversational agents in healthcare, including recent advancements and future prospects. The tutorial will also provide a demonstration of our newly developed virtual disease diagnosis assistant. The tutorial has been crafted with fundamentals to advanced concepts in mind, which makes it beneficial for researchers who are beginners or experts.

Dr. Tulika Saha is a Lecturer of Computer Science at the University of Liverpool, United Kingdom (UK). Her current research interests include ML, DL, NLP typically Dialogue Systems, AI for Social Good, Social Media Analysis etc. She was a postdoctoral research fellow at the National Centre for Text Mining, University of Manchester, UK. Previously she earned her Ph.D. from Indian Institute of Technology Patna, India. Her research articles are published in top-tier conferences such as ACL, ACM SIGIR etc. and several peer-reviewed journals such as Plos One, IEEE TCSS etc and is currently serving as ACs for several top-tier conferences such as ACL.

Abhisek Tiwari is a research scholar (Prime Minister Research Fellow) in Computer science and Engineering, Indian Institute of Technology, Patna. His research interests include AI for Social Good, NLP, typically Conversational AI, and RL. He is also serving as a guest lecturer at NSIT Bihta, India. His research works have been published in reputable conferences, such as CIKM, IJCNLP, and peer-reviewed journals. Abhisek has delivered several tutorials, including the GIAN Course on DL Techniques for Conversational AI, and conducted birds-of-a-feather sessions at top-tier conferences such as ACL, ICLR, and NeurIPS.

Dr. Sriparna Saha is currently serving as an Associate Professor in the Department of Computer Science and Engineering, Indian Institute of Technology Patna, India. She has authored or co-authored more than 400 papers. Her current research interests include machine learning, deep learning, bioinformatics, natural language processing, multiobjective optimization, and biomedical information extraction. Her h-index is 33 and the total citation count of her papers is 6710 (according to Google scholar). She is also a senior member of IEEE. She is the recipient of the Google India Women in Engineering Award, 2008, NASI YOUNG SCIENTIST PLATINUM JUBILEE AWARD 2016, BIRD Award 2016, IEI Young Engineers' Award 2016, SERB WOMEN IN EXCELLENCE AWARD 2018, SERB Early Career Research Award 2018, Humboldt Research Fellowship, Indo-U.S. Fellowship for Women in STEMM (WISTEMM) Women Overseas Fellowship program 2018 and CNRS fellowship. She is currently also serving as the Associate Editor of IEEE/ACM Transactions on Computational Biology and Bioinformatics, IEEE Transactions on Computational Social Systems, ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP), Expert Systems with Applications, PLOS ONE, Machine Learning with Applications, IEEE Internet Computing, Engineering Applications of Artificial Intelligence, Elsevier journal (impact factor: 6.2, h5-index: 65). Her name is included in the list of top 2% of scientists of their main subfield discipline (Artificial Intelligence and Image Processing), across those that have published at least five papers (a survey conducted by Stanford University).

T8: Open-source tools for automatic speech recognition with Lhotse and Icefall: Training efficient transducers with large data

Liffey Hall 2

Fangjun Kuang, Matthew Wiesner, Piotr Żelasko, Desh Raj, Daniel Povey, Sanjeev Khudanpur, Leibny Paola Garcia Perera and Jan “Yenda” Trmal

Fangjun Kuang (Xiaomi, China) Matthew Wiesner (John Hopkins University, USA), Piotr Zelasko (Meaning, USA), Desh Raj (John Hopkins University, USA), Dan Povey (Xiaomi, China) Sanjeev Khudanpur (John Hopkins University, USA), Leibny Paola Garcia Perera (Johns Hopkins University, USA) and Jan “Yenda” Trmal (Johns Hopkins University, USA).

The focus of this tutorial is on the new features in Lhotse and Icefall such as: efficient algorithms and architectures that enable fast and memory-efficient training of Transducers, even in academic environments using modest GPU resources; novel fast decoding algorithms; sequential data storage and I/O to enable easy storage and processing of large corpora (>30,000 hrs); new Lhotse workflows with Whisper and Wav2Vec2.0, new ASR recipes focusing on corpora with 5000+ hrs of speech, and demonstrating how Lhotse can be used to support full-stack speech processing with blind source separation in multi-talker multi-microphone recordings. Finally, we present a new ASR server framework in Python, called Sherpa,10that supports both streaming and non-streaming recognition. We hope this tutorial will encourage the wider community, including industrial and academic researchers, to develop and deploy full-stack, Transducer based ASR solutions trained on large corpora such as the Gigaspeech, or SPGI Speech corpora.

Fangjun Kuang received his master's degree from the University of Stuttgart, Germany, in 2017, and his bachelor's degree from Central South University, China, in 2011. He is currently a speech researcher at Xiaomi and his main interest is speech recognition. He is a member of the next-gen Kaldi team and is interested in developing open-source frameworks for speech recognition, including training as well as deployment.

Matthew Wiesner received his PhD from Johns Hopkins University in 2021, where he is currently a research scientist at the Human Language Technology Center of Excellence. He has worked extensively on various multilingual aspects of speech processing ranging from zero-shot speech recognition to speech translation. He was an organizer for the 2021 IWSLT Multilingual speech translation task, and for the CHiME-7 DASR challenge.

Piotr Żelasko is an expert in ASR and spoken language understanding, with extensive experience in developing practical and scalable ASR solutions for industrial-strength use. He worked at Johns Hopkins University's Center for Language and Speech Processing, as well as with successful speech processing start-ups – Techmo (Poland) and IntelligentWire (USA, acquired by Avaya). Currently he is the head of research at Meaning.Team Inc., a speech processing start-up.

Desh Raj is currently a Ph.D. student at Johns Hopkins University, where he is advised by Sanjeev Khudanpur and Dan Povey. His research involves problems such as multi-talker speech recognition and speaker diarization, and solving them through end-to-end methods. He has interned with the speech groups at Microsoft and Meta AI, where he built transducer-based systems for overlapped speech. He is a core contributor to Lhotse, and an organizer for the CHiME-7 DASR challenge. At JHU, his research is funded by an Amazon AI2AI fellowship.

Daniel Povey completed his PhD at Cambridge University in 2003. He spent about ten years working for industry research labs (IBM Research and then Microsoft Research), and 7 years as non-tenure-track faculty at Johns Hopkins University; he moved to Beijing, China in November 2019 to join Xiaomi Corporation as Chief Voice Scientist. He is known for many different contributions to the technology of speech recognition. He is an IEEE Fellow as of 2023.

Sanjeev Khudanpur is a professor at Johns Hopkins University with over 25 years of experience working on almost all aspects of human language technology, including ASR, machine translation, and information retrieval. He has led a number of research project from NSF, DARPA, IARPA, and industry sponsors, and published extensively. He has trained more than 40 PhD and Masters students to use speech recognition tools for their dissertation work. His research interests are in the application of information theoretic and statistical methods to human language technologies.

Leibny Paola Garcia Perera (PhD 2014, University of Zaragoza, Spain) joined Johns Hopkins University after extensive research experience in academia and industry, including highly regarded laboratories at Agnitio and Nuance Communications. She led a team of 20+ researchers from four of the best laboratories worldwide in far-field speech diarization and speaker recognition under the auspices of the JHU summer workshop 2019 in Montreal, Canada. She was also a researcher at Tec de Monterrey, Campus Monterrey, Mexico, for ten years. She was a Marie Curie researcher for the Iris project in 2015, exploring assistive technology for children with autism in Zaragoza, Spain. She was a visiting scholar at Georgia Institute of Technology (2009) and Carnegie Mellon (2011). Recently, she has been working on children's speech, including child speech recognition and diarization in day-long recordings. She collaborates with DARCLE.org and CCWD, which analyze child-centered speech. She is also part of the JHU CHiME5, CHiME6, SRE18 and SRE19, SRE20, SRE21, LRE22 teams. Her interests include diarization, speech recognition, speaker recognition, machine learning, and language processing.

Jan “Yenda” Trmal received his PhD in 2013 from the University of West Bohemia, Czech Republic. From 2013 to 2015, he worked as a Postdoctoral Fellow and later as an Assistant Research Scientist at the Center for Language and Speech Processing (CLSP). Since 2017, he has been an Associate Research Scientist with CLSP.

Special Sessions

The Organizing Committee of INTERSPEECH 2023 can confirm the following Special Sessions, Challenges and Panel Session.

Biosignal-enabled Spoken Communication

Tuesday, 22nd August, 10:00- 12:00, Liffey Meeting Room 2

Introduction

Biosignals such as of articulatory or neurological activities provide information about the human speech process and thus can serve as an alternative modality to the acoustic speech signal. As such, they can be the primary driver for speech-driven human-computer interfaces intended to support humans when acoustic speech is not available or perceivable. For instance, articulatory-related biosignals, such as Electromyography (EMG) or Electromagnetic Articulography (EMA), can be leveraged to synthesize the acoustic speech signal from silent articulation. By the same token, neuro-steered hearing aids process neural activities, reflected in signals such as Electroencephalography (EEG), to detect the human selective auditory attention to single out and enhance the attended speech stream. Progress in the field of speech-related biosignal processing will lead to the design of novel biosignal-enabled speech communication devices and speech rehabilitation for everyday situations.

Topics

With the special session “Biosignal-enabled Spoken Communication”, we aim at bringing together researchers working on biosignals and speech processing to exchange ideas on the interdisciplinary topics. Topics include, but are not limited to:

- » Processing of biosignals related to spoken communication, such as brain activity captured by, e.g., EEG, Electrocorticography (ECoG), or functional magnetic resonance imaging (fMRI).
- » Processing of biosignals stemming from respiratory, laryngeal, or articulatory activity, represented by, e.g., EMA, EMG, videos, or similar.
- » Application of biosignals for speech processing, e.g., speech recognition, synthesis, enhancement, voice conversion, or auditory attention detection.
- » Utilization of biosignals to increase the explainability or performance of acoustic speech processing methods.
- » Development of novel machine learning algorithms, feature representations, model architectures, as well as training and evaluation strategies for improved performance or to address common challenges.
- » Applications such as speech restoration, training and therapy, speech-related brain-computer interfaces (BCIs), speech communication in noisy environments, or acoustic-free speech communication for preserving privacy.

Organisers

Siqi Cai, Human Language Technology Laboratory, National University of Singapore, Singapore

Kevin Scheck, Cognitive Systems Lab, University of Bremen, Germany

Hiroki Tanaka, Augmented Human Communication Labs, Nara Institute of Science and Technology, Japan

Tanja Schultz, Cognitive Systems Lab, University of Bremen, Germany

Haizhou Li, The Chinese University of Hong Kong, Shenzhen, China; National University of Singapore, Singapore

Connecting Speech-science and Speech-technology for Children's Speech

Thursday, 24th August, 10:00 - 12:00, Liffey Meeting Room 2

Introduction

Speech technology is increasingly embedded in everyday living, with its applications spanning from critical domains like medicine, psychiatry, education, to more commercial settings. This rapid growth can be largely attributed to the successful use of deep learning in modelling large amounts of speech data. However, performance of speech technology in related applications varies, depending on the demographics of the population, the data it has been trained on and is applied to. That is, inequity in speech technology appears across age, gender, people with vocal disorders or from atypical populations, people with non-native accents.

A large group vulnerable to the inequities of speech technology and its performance is children. The goal of this interdisciplinary session is to address the limitations and advances of speech-technology and speech-science, focusing on child speech, while bringing together researchers working within these domains.

Topics

We invite papers on the following topics, but not limited to:

- » Using speech science (knowledge from children's speech acquisition, production, perception, and generally natural language understanding) to develop and improve speech technology applications.
- » Using techniques used for developing speech technology to learn more about child speech production, perception and processing.
- » Computational modelling of child speech.
- » Speech technology applications for children including (but not limited to), speech recognition, voice-conversion, language identification, segmentation, diarization etc.
- » Use and/or modification of data creation techniques, feature extraction schemes, tools and training architectures developed for adult speech for developing child speech applications.
- » Speech technology for children from typical and non-typical groups (atypical, non-native speech, slow-learners, etc.)

Organisers

Line H. Clemmensen, Technical University of Denmark, Denmark

Nina R. Benway, Syracuse University, USA

Odette Scharenborg, Delft University of Technology, the Netherlands

Sneha Das, Technical University of Denmark, Denmark

Tanvina Patel, Delft University of Technology, the Netherlands

Zhengjun Yue, Delft University of Technology, the Netherlands

DiGo – Dialog for Good: Speech and Language Technology for Social Good

Tuesday, 22nd August, 10:00 - 12:00, EcoCem Room

Introduction

Speech and language technology (SLT) has the potential to help educate, facilitate medical treatment, provide access to services and information, empower, support independent living, and enable communication and cultural exchange between communities.

While speech synthesis and automatic speech recognition have been used to aid accessibility for several decades, a wider range of speech and language technologies are powerful tools in applications useful to society. Dialog technology has been used in domains including public education and cultural exhibits, independent learning applications, anti-bullying initiatives, health, digital resources for minority or lesser spoken languages, and companion/assistive systems for the elderly. These applications have potential to provide societal benefits or public good by giving access to highly interactive services in sectors or contexts where dialogue and language is a critical interaction component, and where other interface paradigms would be less effective or have higher infrastructure barriers. Other applications seek to improve access to information, and provide spoken word versions of written texts for education and entertainment (Daisy Digital Books), while machine translation and a wide range of NLP tools also have potential to aid communication and access to information.

The Dialog for Good special session (DiGo) aims to highlight the use of SLT for social good. It will promote novel use cases, cutting edge research and technological developments in any domain which facilitates society, building awareness of the opportunities that SLT offers. We hope the workshop will foster networking among researchers and service providers, leading to further initiatives to develop this highly interdisciplinary area of speech and language research and technology.

Topics

We welcome submissions on dialog and speech and language technology and applications in areas including, but not limited to:

- » Education
- » Access to social services / participation in society
- » Lesser Resourced Languages
- » Health
- » Social/Public services
- » Culture
- » Mobility/Migration
- » Political Freedom
- » Agriculture
- » Sustainability

Organisers

Emer Gilmartin, Inria, Paris

Neasa Ni Chiarain, Centre for Language and Communications Studies, Trinity College, Dublin)

Jens Edlund, KTH, Stockholm

Brendan Spillane, University College Dublin/ADAPT

David Traum, ICT

Justine Cassell, INRIA Paris/CMU

Vinny Wade, ADAPT Centre, Dublin

Invariant and Robust Pre-trained Acoustic Models

Wednesday, 23rd August, 10:00 - 12:00, Liffey Meeting Room 2

Introduction

Pre-trained acoustic models learned in an unsupervised fashion have exploded in the domain of speech. The representations discovered by CPC, wav2vec 2.0, HuBERT, WavLM, and others, can be used to massively reduce the amount of labelled data to train speech recognizers; they also produce excellent speech resynthesis.

However, while pre-trained acoustic representations seem to be nicely isomorphic with phones or phone states under optimal listening conditions, very little work has addressed invariances. Do the representations remain consistent across instances of the same phoneme in different phonetic contexts (i.e., are they phonemic or merely allophone representations)? Do they hold up under noise and distortions? Are they invariant to different talkers and/or accents?

Progress on these issues could unlock new levels of performance on higher-level tasks such as word segmentation, named entity recognition, and language modelling, where using the discretized “units” discovered by pre-trained acoustic models still lag behind state-of-the-art text-based models. Importantly, progress on talker and accent robustness would contribute to the serious fairness problem that current ASR models have (including those using pre-trained acoustic models as features) whereby lower socioeconomic status is highly correlated with higher word error rate.

The 2023 Interspeech Special Session on Invariant and Robust Pretrained Acoustic Models (IRPAM) aims to address both the evaluation problem and the problem of invariance in pretrained acoustic models. The evaluation track will accept proposed systematic evaluation measures, test sets, or benchmarks for pre-trained acoustic models, including but not limited to context-invariance, talker-invariance, accent-invariance, robustness to noise and distortions, etc. The model track will propose new models or techniques and demonstrate empirically that they improve the invariance or robustness properties of pre-trained speech representations, evaluating using existing approaches or variants on existing benchmarks/measures. This could also include techniques for disentanglement in pre-trained acoustic models.

Organisers

Ewan Dunbar, University of Toronto

Emmanuel Dupoux, École des Hautes Études en Sciences Sociales / École Normale Supérieure / Meta AI

Hung-yi Lee, National Taiwan University

Abdelrahman Mohamed

Multi-talker Methods in Speech Processing

Wednesday, 23rd August, 13:30 - 15:30, Liffey Meeting Room 2

Introduction

Developing methods that are able to handle multiple simultaneous speakers represents a major challenge for researchers in many fields of speech technology and speech science, for example, in speech enhancement, auditory modelling and machine listening or speaking. Significant research activity has occurred in many of these fields in recent years and great advances have been made, but often in a siloed manner. This cross-disciplinary special session will bring together researchers from across the whole field to present and discuss their latest research on multi-talker methods, encouraging a sharing of ideas and fertilising future collaboration.

Topics

We welcome submissions on many different topics, including, but not limited to:

- » Single channel speech separation;
- » Automatic speech recognition of overlapped speech;
- » Speech enhancement in the presence of competing speakers;
- » Diarization of overlapped speech;
- » Target speaker ASR and speech enhancement;
- » Understanding human speech perception in multi-talker environments;
- » Improving speech synthesis in competing-speaker scenarios;
- » Multi-modal approaches to multi-talker speech processing: for example audio-visual methods, location-aware approaches;
- » Clinical applications of multi-talker methods, eg. for hearing impaired listeners;
- » Downstream technologies operating in multi-talker scenarios, eg. meeting transcription, human-robot interaction;
- » Evaluation methods for multi-talker speech technologies.

Note however that we intend the focus of the session to be on applications in single-channel or binaural conditions, rather than on methods pertaining specifically to microphone arrays or other specialist hardware.

Organisers

Peter Bell, University of Edinburgh, UK

Michael Akeroyd, University of Nottingham, UK

Marc Delcroix, NTT, Japan

Liang Lu, Otter.ai, USA

Jonathan Le Roux, MERL, USA

Jinyu Li, Microsoft, USA

Cassia Valentini, University of Edinburgh, UK

DeLiang Wang, Ohio State University, USA

Jon Barker, University of Sheffield

Neural Processing of Speech and Language: Encoding and Decoding the Diverse Auditory Brain

Thursday, 24th August, 13:30 - 15:30, Liffey Meeting Room 2

Introduction

This special session has the goal of serving as a central hub for researchers investigating how the human brain processes speech under various acoustic/linguistic conditions and in various populations. Understanding speech requires our brain to rapidly process a variety of acoustic and linguistic properties, with variability due to age, language proficiency, attention, and neurocognitive ability among other factors. Until recently, neurophysiology research was limited to studying the encoding of individual linguistic units in isolation (e.g., syllables) using tightly controlled and uniform experiments that were far from realistic scenarios. Recent advances in modelling techniques led to the possibility of studying the neural processing of speech with more ecologically constructed stimuli involving natural, conversational speech, enabling researchers to examine the contribution of factors such as native language and language proficiency, speaker sex, and age to speech perception.

One of the approaches, known as forward modelling, involves modelling how the brain encodes speech information as a function of certain parameters (e.g., time, frequency, brain region), contributing to our understanding of what happens to the speech signal as it passes along the auditory pathway. This framework has been used to study both young and ageing populations, as well as neurocognitive deficits. Another approach, known as backward modelling, involves decoding speech features or other relevant parameters from the neural response recorded during natural listening tasks. A noteworthy contribution of this approach was the discovery that auditory attention can be reliably decoded from several seconds of non-invasive brain recordings (EEG/MEG) in multi-speaker environments, leading to a new subfield of auditory neuroscience focused on neuro-enabled hearing technology applications.

Organisers

Giovanni Di Liberto, Trinity College Dublin (School of Computer Science and Statistics, ADAPT Centre, TCIN)

Alejandro Lopez Valdes, Trinity College Dublin (School of Engineering, Electronic and Electrical Engineering, Global Brain Health Institute, TCBE, TCIN)

Mick Crosse, SEGOTIA; Trinity College Dublin (School of Engineering)

Mounya Elhilali, Johns Hopkins University (Department of Electrical and Computer Engineering, Department of Psychological and Brain Sciences)

Speech and Language in Health: From Remote Monitoring to Medical Conversations 1 & 2

Tuesday, 22nd August, 13:30 - 15:30, 16:00 - 18:00, Liffey Meeting Room 2

Introduction

Technological advancements have been rapidly transforming healthcare in the last several years, with speech and language tools playing an integral role. However, this brings a multitude of unique challenges to consider when integrating speech and language tools in healthcare and health research settings. Many of these challenges are common to the two themes of this special session. The first theme, From Collection and Analysis to Clinical Translation, seeks to draw attention to all aspects of speech-health studies that affect the overall quality and reliability of any analysis undertaken on the data and thus affect user acceptance and clinical translation. These factors include increasing our understanding into how changes in health affect the neuroanatomical and neurophysiological mechanisms related to speech and language, and how best to go about capturing, analyzing and quantifying these changes. Alongside these efforts, the speech health community also needs to consider practical issues of feasibility to help advance the translational potential of speech as a health signal.

The second theme, Speech and Language Technology For Medical Conversations, covers a growing field of ambient intelligence in which automatic speech recognition and natural language processing tools are combined to automatically transcribe and interpret clinician-patient conversations and generate subsequent medical documentation. This multifaceted area includes many foci centered around language technologies. Such as those for long-form conversations, for translation of conversations into accurate clinical documentation, for providing feedback to medical students, for diagnostic support from spontaneous conversations with physicians, or for novel applications for language technology. By combining these themes, this session will bring the wider speech-health community together to discuss innovative ideas, challenges, and opportunities for utilizing speech technologies within the scope of healthcare applications.

Organisers

Nicholas Cummins, King's College London and Thymia

Thomas Schaaf, 3M

Heidi Christensen, University of Sheffield

Julien Epps, University of New South Wales

Matt Gormley, Carnegie Mellon University

Sandeep Konam, Abridge.ai

Emily Mower Provost, University of Michigan

Chaitanya Shivade, Amazon.com

Thomas Quatieri, MIT Lincoln Laboratory

Challenges

MERLlon CCS Challenge: Multilingual Everyday Recordings – Language Identification On Code-Switched Child-Directed Speech

Wednesday, 23rd August, 16:00 - 18:00, Liffey Meeting Room 2

Introduction

The inaugural MERLlon CCS Challenge focuses on developing robust language identification and language diarization systems that are reliable for non-standard, accented, spontaneous code-switched, child-directed speech collected via Zoom.

Due to a bias towards standard speech varieties, non-standard, accented speech remains an ongoing challenge for automatic processing. Although existing works have explored automatic speech recognition and language diarization in code-switching speech corpora, those tasks are still challenging for natural in-the-wild speech containing more than one language, particularly when the code-switching occurs in short language spans.

Aligning closely with Interspeech 2023's theme, 'Inclusive Spoken Language Science and Technology – Breaking Down Barriers', we present the challenge of developing robust language identification and language diarization systems that are reliable for non-standard accented, bilingual, child-directed speech collected via a video call platform.

As video calls become increasingly ubiquitous, we present a unique first-of-its-kind Zoom video call dataset. The MERLlon CCS Challenge will tackle automatic language identification and language diarization in a subset of audio recordings from the Talk Together Study, where parents narrated an onscreen wordless picture book to their child.

The main objectives of this inaugural challenge are:

1. to benchmark the current and novel language identification and language diarization systems in a code-switching scenario, including extremely short utterances;
2. to test the robustness of such systems under accented speech;
3. to challenge the research community to propose novel solutions in terms of adaptation, training, and novel embedding extraction for this particular set of tasks.

Techniques developed in the challenge may benefit other related fields allowing a greater understanding of how code-switching occurs in real-life situations.

The challenge will feature language identification and language diarization. Two tracks, open and closed, are available. The tracks differ by the data used during system training.

Organisers

Leibny Paola Garcia Perera, John Hopkins University

YH Victoria Chua, Nanyang Technological University

Hexin Liu, Nanyang Technological University

Fei Ting Woon, Nanyang Technological University

Andy Khong, Nanyang Technological University

Justin Dauwels, TU Delft

Sanjeev Khudanpur, John Hopkins University

Suzy J Styles, Nanyang Technological University

Panel Sessions

Panel session: Assessing and Mitigating AI Bias in Speech Processing Systems

Monday, 21st August, 14:30 - 16:30, Wicklow Meeting Room 1

Introduction

Speech processing system capacity for learning about human speech and enabling speech-based human computer interaction has afforded many possibilities. While the community has worked hard on the topic of speech processing system errors, we have not really grappled with the risks and negative impacts of speech applications – not because they don't happen, but presumably because these topics are rarely in scope for the activity. The field of trustworthy and responsible AI seeks to explore limitations of technology and reduce its risks to individuals, communities, and society. There is mounting evidence of significant AI risks, such as AI bias causing harms to certain groups (e.g., in facial recognition technology), leading research communities to pay more attention to these concerns.

This special session will focus on this topic in the context of speech processing systems. It will consist of moderated discussion of bias in speech processing from a broader, more holistic socio-technical perspective, that (1) includes and goes beyond computational and statistical biases in the data and model pipelines, to include systemic bias, default culture, the role of domain expertise and contextual considerations, and human-cognitive biases across AI lifecycle, (2) centers on impacts, how risks in AI lead to those impacts, and how design considerations and organizational practices can be developed and normalized to address risks, (3) will elicit thoughts and questions from session attendees and panels made up of the session organizers.

The session's goals are to encourage the speech community to:

- » develop a research roadmap for evaluating and mitigating bias propagation beyond the model pipeline in speech applications
- » avoid pitfalls of other AI tasks/applications in bias
- » consider how we can:
 - » explore limitations within speech applications?
 - » evaluate speech application impacts in real-world settings?
 - » improve our capacity for bringing socio-technical context into the design and development of speech applications?
 - » know which variables within human speech are being learned by speech processing systems that have contributed to risk or unintended impacts?

Organisers

Aylin Caliskan, University of Washington

Craig Greenberg, National Institute of Standards and Technology

John Hansen, University of Texas, Dallas

Abigail Jacobs, University of Michigan

Nina Markl, University of Edinburgh

Doug Reynolds, National Security Agency; MIT Lincoln Laboratory

Hilke Schellmann, New York University

Reva Schwartz, National Institute of Standards and Technology

Mona Sloane, NYU; University of Tübingen

The Organising Committee of INTER_SPEECH 2023 is proud to announce the following satellite events which all have received ISCA approval.

2nd Annual Meeting of the ELRA/ISCA Special Interest Group on Under-Resourced Languages (SIGUL 2023)

Location:	Dublin, Ireland
Date:	18-20 August 2023
Webpage:	https://sigul-2023.ilc.cnr.it

SLaTE-2023 Workshop

Location:	Dublin, Ireland
Date:	18-20 August 2023
Webpage:	https://sites.google.com/view/slate2023

Limits and Benefits of Information-Theoretic Perspectives in Spoken Communication

Location:	Dublin, Ireland
Date:	19 August 2023
Webpage:	https://lbit2023.lst.uni-saarland.de/

4th Clarity Workshop on Machine Learning Challenges for Hearing Aids (Clarity 2023)

Location:	Dublin, Ireland
Date:	19 August 2023
Webpage:	https://claritychallenge.org/clarity2023-workshop/

3rd Symposium on Security and Privacy in Speech Communication joined with 3rd VoicePrivacy Challenge Workshop

Location:	Dublin, Ireland
Date:	19 August 2023
Webpage:	https://symposium2023.spsc-sig.org/

7th International Workshop for Speech Processing in Everyday Environments (CHiME-2023)

Location:	Dublin, Ireland
Date:	25 August 2023
Webpage:	https://www.chimechallenge.org/current/workshop/index

26th International Conference Text, Speech and Dialogue

Location:	Plzeň, Czech Republic
Date:	4 September 2023 - 7 September 2023
Webpage:	https://www.kiv.zcu.cz/tsd2023/index.php

Speech, Music and Mind 2023 (SMM23)

Location:	Dublin, Ireland
Date:	18 August 2023
Webpage:	https://smm23.adaptcentre.ie/index.html

Young Female Researchers in Speech Workshop (YFRSW)

Location:	Dublin, Ireland
Date:	19 August 2023
Webpage:	https://sites.google.com/view/yfrsw-2023

VoxCeleb Speaker Recognition Challenge 2023 (VoxSRC-23)

Location:	Dublin, Ireland
Date:	20 August 2023
Webpage:	https://mm.kaist.ac.kr/datasets/voxceleb/voxsrc/competition2023.html

12th ISCA Speech Synthesis Workshop (SSW12)

Location:	Grenoble, France
Date:	26 August 2023 - 28 August 2023
Webpage:	https://ssw2023.org/

Disfluency in Spontaneous Speech (DiSS) Workshop

Location:	Bielefeld, Germany
Date:	28 - 30 August 2023
Webpage:	https://tinyurl.com/diss2023

Blizzard Challenge 2023

Location:	Grenoble, France
Date:	29 August 2023 (in conjunction with SSW12)
Webpage:	https://www.synsig.org/index.php/Blizzard_Challenge_2023

SpeechBrain Online Summit

Location:	Online
Date:	28 August 2023, 09:00 - 16:30
Webpage:	https://speechbrain.github.io/sb_summit2023

Area Chairs

1. Speech Perception, Production and Acquisition

- » Ioana Vasilescu, LISN CNRS / Paris-Saclay University
- » Prasanta Ghosh, Indian Institute of Science (IISc), Bangalore
- » Hongwei Ding, Shanghai Jiao Tong University / School of Foreign Languages
- » Katalin Mády, Hungarian Research Centre for Linguistics

2. Phonetics, Phonology and Prosody

- » Margaret (Meg) Zellers, Kiel University
- » Jennifer Cole, Northwestern University
- » Lehlohonolo Mohasi, National University of Lesotho

3. Analysis of Paralinguistics in Speech and Language

- » Khiet Truong, University of Twente
- » Plinio Barbosa, University of Campinas
- » Bogdan Ludusan, Bielefeld University
- » Éva Székely, KTH Royal Institute of Technology

4. Speaker and Language Identification

- » Alicia Lozano-Diez, Universidad Autonoma de Madrid
- » Lukáš Burget, Brno University of Technology
- » Erica Cooper, National Institute of Informatics
- » Moses Ekpenyong, University of Uyo
- » Nicholas Evans, EURECOM

5. Analysis of Speech and Audio Signals

- » Richard (Rick) Rose, Google
- » Mathew Magimai Doss, Idiap Research Institute
- » Catherine Watson, University of Auckland
- » Christophe d'Alessandro, CNRS – Sorbonne Université
- » Doroteo Toledano, Universidad Autónoma de Madrid
- » Zeyu Jin, Adobe Research
- » Maryam Al Dabel, University of Hafr Al Batin

6. Speech Coding and Enhancement

- » Ina Kodrasi, Idiap Research Institute
- » Junfeng Li, Institute of Acoustics, Chinese Academy of Sciences
- » Mariem Bouafif, Université de Tunis El Manar University
- » Rainer Martin, Ruhr-Universität Bochum
- » Simone Graetzer, University of Salford / UK Acoustics Network Plus

7. Speech Synthesis and Spoken Language Generation

- » Zhenhua Ling, University of Science and Technology of China
- » Eva Navas, University of the Basque Country (UPV/EHU)
- » Esther Klabbers, ReadSpeaker
- » Javier Latorre, Apple
- » Yao Qian, Microsoft
- » Andrew Breen, Amazon
- » Aby Louw, Council for Scientific and Industrial Research (CSIR)
- » Rob Clark, Google

8. Speech Recognition – Signal Processing, Acoustic Modeling, Robustness, and Adaptation

- » Penny Karanasou, Amazon
- » Martin Karafiat, Brno University of Technology
- » Yanmin Qian, Shanghai Jiao Tong University
- » Néstor Becerra Yoma, University of Chile
- » Rita Singh, Carnegie Mellon University
- » Erfan Loweimi, University of Cambridge
- » Takuya Yoshioka, Microsoft
- » Hung-yi Lee, National Taiwan University

9. Speech Recognition – Architecture Search, and Linguistic Components

- » Preethi Jyothi, Indian Institute of Technology Bombay
- » Mikko Kurimo, Aalto University
- » Anton Ragni, University of Sheffield
- » Shinji Watanabe, CMU

10. Speech Recognition – Technologies and Systems for New Applications

- » Jan (Yenda) Trmal, Johns Hopkins University
- » Daniele Falavigna, Fondazione Bruno Kessler
- » Ladan Baghai-Ravary, Aculab

11. Spoken dialog systems and conversational analysis

- » Joakim Gustafson, KTH
- » Yun-Nung (Vivian) Chen, National Taiwan University
- » Dilek Hakkani-Tür, Amazon Alexa AI

12. Spoken Language Processing: Translation, Information Retrieval, Summarization, Resources and Evaluation

- » Sakriani Sakti, Japan Advanced Institute of Science and Technology (JAIST)
- » Florian Metze, Meta AI
- » Tanja Schultz, Universität Bremen
- » Jan Niehues, Karlsruhe Institute of Technology

13. Speech, voice, and hearing disorders

- » Ning Ma, University of Sheffield
- » Vijayalakshmi (Viji) Parthasarathy, SSN College of Engineering
- » Juan Rafael (Rafa) Orozco-Arroyave, University of Antioquia

14. Special sessions

- » Jennifer Williams, University of Southampton
- » Mark Gales, University of Cambridge

15. Special Areas

- » Antoine Serrurier, ISCA / University Hospital RWTH Aachen
- » Martin Cooke, Ikerbasque (Basque Science Foundation)
- » Reinhold Haeb-Umbach, Paderborn University
- » Hao Tang, University of Edinburgh
- » Marc Delcroix, NTT
- » Jean-François (JF) Bonastre, Inria D&S / Avignon University
- » Tara Sainath, Google
- » Tomi Kinnunen, University of Eastern Finland

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Alberto Abad	Anna Sfakianaki	Benjamin Lecouteux
Aleksandr Laptev	Anna Silnova	Benjamin O'Brien
Alessandro Ragano	Anne Hermes	Benoit Fauve
Alessio Brutti	Annemie Van Hirtum	Benoît Favre
Alex Acero	Annie Gilbert	Berlin Chen
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Alexandros Papangelis	Anssi Rämö	Bernd Meyer
Alexandros Potamianos	Ante Jukic	Bernd Möbius
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Alexey Sholokhov	Antoine Serrurier	Bhiksha Raj
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Ali Raza Syed	Anurag Kumar	Bin Liu
Ali Siahkoohi	Anushiya Gladston	Bin Ma
Aliaksei Ivanou	Aparna Khare	Biqiao Zhang
Alicia Lozano-Diez	Aravind Illa	Birgit Popp

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Bo Li	Chin-Hui Lee	Deblin Bagchi
Bo Xiao	Chiori Hori	Deborah Dahl
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Bowon Lee	Chong Zhang	Denis Filimonov
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Branislav Gerazov	Chris Davis	Deroo Olivier
Brechtje Post	Christian Plahl	Desh Raj
Brian King	Christian Raymond	Dhananjay Ram
Brian Kingsbury	Christian Ritz	Dhany Arifianto
Brian Ore	Christin Jose	Diamantino Caseiro
Brian Thompson	Christina Hagedorn	Dijana Petrovska-Délacretaz
Byeonggeun Kim	Christina Tännander	Dileep Aroor Dinesh
Cal Peyser	Christine Howes	Dimitra Emmanouilidou
Camille Fauth	Christine Mooshammer	Dimitra Vergyri
Camille Guinaudeau	Christophe Coupe	Dipjyoti Paul
Candy Olivia Mawalim	Christophe Servan	Divesh Lala
Carl Quillen	Christophe Veaux	Djegdjiga Amzouz
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Themos Stafylakis	Vasu Sharma	Wenxin Hou
Thiago Fraga da Silva	Vataya Chunwijitra	William Hartmann
Thierry Dutoit	Vedran Vukotic	William N. Havard
Thilo von Neumann	Veena Karjigi	Win Pa Pa
Thomas Hain	Veena Thenkanidiyoor	Woohyun Kang
Thomas Hueber	Venkata Chebiyyam	Wooil Kim
Thomas Kollar	Venki Nagesha	Xaoming Jiang
Thomas Merritt	Vera Cabarrão	Xavier Anguera
Thomas Niesler	Vera Evdokimova	Xian Li
Thomas Pellegrini	Vesa Ruoppila	Xiang Li
Thomas Schaaf	Viacheslav Klimkov	Xiangdong Wang
Thomas Schneider	Vicky Zayats	Xianjun Xia
Tiago Falk	Victor Sorokin	Xiaodong Cui
Tian Tan	Victoria Sanchez	Xiaofei Wang
Tianchi Liu	Vidhyasaharan Sethu	Xiaohai Tian
Tien Ping Tan	Viet Anh Trinh	Xiaohui Zhang
Tilman Becker	Viet-Bac Le	Xiaoxiao Miao
Tim Fingscheidt	Vijayaditya Peddinti	Xiaoxue Gao
Tim Jürgens	Vijendra Raj Apsingekar	Xiaoyu Liu
Tim Polzehl	Vikas Joshi	Xie Chen
Timo Baumann	Vikram Ramanarayanan	Xin Wang
Timo Gerkmann	Vikramjit Mitra	Xingyu Na
Tina Kohler	Vikrant Tomar	Xinhao Mei
Ting Dang	Viktor Rozgic	Xinhui Hu
Titouan Parcollet	Ville Hautamäki	Xinhui Zhou
Tobias Bocklet	Vimal Manohar	Xinyu Li
Tohru Nagano	Vinay Kumar Mittal	Xiong Xiao
Tom Bäckström	Vincent Barriac	Xixin Wu
Tom Kenter	Vincent Hughes	Xuan Zhu
Tomasz Maka	Vincent Wan	Xubo Liu
Tomi Kinnunen	Vineet Garg	Xue Wei
Tomohiro Nakatani	Vinicius Ribeiro	Xue Wen
Tomoki Koriyama	Vinit S. Unni	XueShuai Zhang

Xueliang Zhang
Xuesong Yang
Xugang Lu
Xun Gong
Xunying Liu
Xurong Xie
Ya Li
Yael Segal
Yamato Ohtani
Yan Tang
Yan Zhao
Yang Liu
Yang Liu
Yangbin Chen
Yanhua Long
Yanlu Xie
Yannan Wang
Yannick Estève
Yansuo Yu
Yanxiong Li
Yanzhang He
Yaqian Huang
Yaru Wu
Yashesh Gaur
Yasuharu Den
Yasuhiro Minami
Yasuko Nagano-Madsen
Yasuo Ariki
Ye Bai
Ye Jia
Yelin Kin
Yen-Ju Lu
Yeon-Jun Kim
Yerbolat Khassanov
Yi Su
Yi Xu
Yi Zhan
Yi Zhou
Yi-Cheng Pan
Yi-Chiao Wu
Yi-Wen Liu
Yifan Gong
Yik-Cheung Tam
Yike Yang
Yike Zhang
Yile Gu
Yiming Wang
Yinghui Huang
Yingming Gao
Yiting Lu
Yong Xu
Yonghong Yan
Yongqiang Wang
Yongwei Li
Yoo Rhee Oh
Yoshiaki Bando
Yoshinori Shiga

Yossi Adi
Yosuke Higuchi
Yosuke Kashiwagi
You Zhang
Yougen Yuan
Young-Sun Joo
Youngjoo Suh
Youngmoon Jung
Youssef Oualil
Youzhi Tu
Yu Wang
Yu Zhang
Yuan Cao
Yuan Gong
Yuan-Fu Liao
Yuanchao Li
Yuchen Hu
Yuexian Zou
Yuki Saito
Yukun Ma
Yuma Koizumi
Yun Tang
Yunxin Zhao
Yuri Matveev
Yusuke Fujita
Yusuke Hioka
Yusuke Ijima
Yutaka Kamamoto
Yuuki Tachioka
Yuya Akita
Yuya Chiba
Yuya Fujita
Yuzong Liu
Yves Laprie
Zack Hodari
Zakaria Aldeneh
Zbyněk Zajíc
Zdravko Kačič
Zeeshan Ahmed
Zeynab Raeesy
Zhaoheng Ni
Zhaojie Luo
Zhaojun Yang
Zhaoyan Zhang
Zhe Liu
Zhehuai Chen
Zhenchun Lei
Zheng Lian
Zheng-Hua Tan
Zhengchen Zhang
Zhengyang Chen
Zhihao Du
Zhijian Ou
Zhiyong Wu
Zhiyuan Peng
Zhiyuan Tang
Zhizheng Wu

Zhong-Qiu Wang
Zhongwei Teng
Zhuo Chen
Zhuohao Chen
Zhuohuang Zhang
Zili Huang
Ziteng Wang
Zixing Zhang
Zofia Malisz
Zoltan Tueske

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Opening - Opening Session

CEREMONY 📍 **The Auditorium**

📅 Monday 21 August 2023 ⌚ 08:30–09:30
Session chairs :

Keynote 1 ISCA Medallist - Shrikanth Narayanan

Bridging Speech Science and Technology — Now and Into the Future

📍 **The Auditorium**
📅 Monday 21 August 2023 ⌚ 09:30–10:30

Mon-O1 - Speech Synthesis: Prosody and Emotion

ORAL 📍 **The Auditorium**

📅 Monday 21 August 2023 ⌚ 11:00–13:00
Session chairs : Zofia Malisz, Javier Latorre

Mon-O1.1 ⌚ 11:00–11:20 **Emotional Talking Head Generation based on Memory-Sharing and Attention-Augmented Networks**

Jianrong Wang (School of Computer Science and Technology, Tianjin University, Tianjin, China); Yaxin Zhao (Tianjin International Engineering Institute, Tianjin University, Tianjin, China); Li Liu (The Hong Kong University of Science and Technology (Guangzhou)); Tianyi Xu; Qi Li; Sen Li (Tianjin University)

Mon-O1.2 ⌚ 11:20–11:40 **Speech Synthesis with Self-Supervisedly Learnt Prosodic Representations**

Zhao-Ci Liu; Zhen-Hua Ling (University of Science and Technology of China); Ya-Jun Hu; Jia Pan; Jin-Wei Wang; Yun-Di Wu (iFlytek Research)

Mon-O1.3 ⌚ 11:40–12:00 **EmoMix: Emotion Mixing via Diffusion Models for Emotional**

Speech Synthesis

Haobin Tang (USTC); Xulong Zhang (Ping An Technology (Shenzhen) Co., Ltd.); Jianzong Wang; Ning Cheng (Ping An Technology (Shenzhen) Co., Ltd); Jing Xiao (Ping An Insurance (Group) Company of China)

Mon-O1.4 ⌚ 12:00–12:20 **Laughter Synthesis using Pseudo Phonetic Tokens with a Large-scale In-the-wild Laughter Corpus**

Detai Xin; Shinnosuke Takamichi; Ai Morimatsu; Hiroshi Saruwatari (The University of Tokyo)

Mon-O1.5 ⌚ 12:20–12:40 **Explicit Intensity Control for Accented Text-to-speech**

Rui Liu; Haolin Zuo; De Hu; Guanglai Gao (Inner Mongolia University); Haizhou Li (The Chinese University of Hong Kong (Shenzhen))

Mon-O1.6 ⌚ 12:40–13:00 **Comparing normalizing flows and diffusion models for prosody and acoustic modelling in text-to-speech**

Guangyan Zhang (The Chinese University of Hong Kong); Thomas Merritt (Amazon); Sam Ribeiro (Amazon Alexa); Biel Tura-Vecino (Amazon TTS); Kayoko Yanagisawa (Amazon); Kamil Pokora; Abdelhamid Ezzer; Sebastian Cygert (Amazon TTS); Ammar Abbas; Piotr Bilinski; Roberto Barra-Chicote (Amazon); Daniel Korzekwa (Amazon TTS); Jaime Lorenzo-Trueba (Amazon)

Mon-O2 - Self-Supervised Learning in ASR

ORAL 📍 **Wicklow Hall 2**

📅 Monday 21 August 2023 ⌚ 11:00–13:00
Session chairs : Phil Woodland, Shinji Watanabe

Mon-O2.1 ⌚ 11:00–11:20 **DPHuBERT: Joint Distillation and Pruning of Self-Supervised Speech Models**

Yifan Peng (Carnegie Mellon University); Yui Sudo; Shakeel Muhammad (Honda Research Institute Japan); Shinji Watanabe (Carnegie Mellon University)

Mon-O2.2 ⌚ 11:20–11:40 **Automatic Data Augmentation for Domain Adapted Fine-Tuning of Self-Supervised Speech Representations**

Salah Zaiem (Telecom Paris); Titouan Parcollet (Samsung AI Cambridge / University of Cambridge); Slim Es-sid (Institut Polytechnique de Paris)

Mon-02.3 🕒 11:40–12:00 **Dual Acoustic Linguistic Self-supervised Representation Learning for Cross-Domain Speech Recognition**

Zhao Yang (Xi'an Jiaotong University); Dianwen Ng (Alibaba Group/Nanyang Technological University); Chong Zhang (Speech Lab of DAMO Academy, Alibaba Group); Xiao Fu (Xi'an Jiaotong University); Rui Jiang; Wei Xi (Xi'an Jiaotong University); Yukun Ma (Alibaba Group); Chongjia Ni (Alibaba); Eng Siong Chng (Nanyang Technological University); Bin Ma (Alibaba, Singapore R&D Center); Jizhong Zhao (Xi'an Jiaotong University)

Mon-02.4 🕒 12:00–12:20 **O-1: Self-training with Oracle and 1-best Hypothesis**

Murali Karthick Baskar; Andrew Rosenberg; Bhuvana Ramabhadran; Kartik Audhkhasi (Google LLC)

Mon-02.5 🕒 12:20–12:40 **MT4SSL: Boosting Self-Supervised Speech Representation Learning by Integrating Multiple Targets**

Ziyang Ma; Zhisheng Zheng (Shanghai Jiao Tong University); Changli Tang; Yujin Wang (Tsinghua University); Xie Chen (Shanghai Jiaotong University)

Mon-02.6 🕒 12:40–13:00 **Comparing Self-Supervised Pre-Training and Semi-Supervised Training for Speech Recognition in Languages with Weak Language Models**

Léa-Marie Lam-Yee-Mui (University of Paris-Saclay, CNRS, LISN); Lucas Ondel Yang (CNRS); Ondřej Klejch (University of Edinburgh)

Mon-03 - Prosody

ORAL 📍 Liffey Hall 2

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Nigel Ward, Eleanor Chodroff

Mon-03.1 🕒 11:00–11:20 **Chinese EFL Learners' Perception of English Prosodic Focus**

Xinya Zhang (Nanjing University of Science and Technology); Ying Chen (Nanjing University of Science and Technology)

Mon-03.2 🕒 11:20–11:40 **Pitch Accent Variation and the Interpretation of Rising and Falling Intonation in American English**

Thomas Sostarics (Northwestern University); Jennifer Cole (Northwestern University)

Mon-03.3 🕒 11:40–12:00 **Tonal coarticulation as a cue for upcoming prosodic boundary**

Jianjing Kuang; May Pik Yu Chan; Nari Rhee (University of Pennsylvania)

Mon-03.4 🕒 12:00–12:20 **Alignment of Beat Gestures and Prosodic Prominence in German**

Sophie Repp; Lara Muhtz (University of Cologne); Johannes Heim (University of Aberdeen)

Mon-03.5 🕒 12:20–12:40 **Creak Prevalence and Prosodic Context in Australian English**

Hannah White; Joshua Penney; Andy Gibson; Anita Szakay; Felicity Cox (Macquarie University)

Mon-03.6 🕒 12:40–13:00 **Speech reduction: position within French prosodic structure**

Kübra Bodur (Aix-Marseille Université); Roxane Bertrand; James S. German; Stéphane Rauzy (CNRS); Corinne Fredouille (Avignon Université - LIA); Christine Meunier (CNRS)

Mon-04 - Statistical Machine Translation

ORAL 📍 Liffey Hall 1

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Shervin Malmasi, Satoshi Nakamura

Mon-04.1 🕒 11:00–11:20 **Modular Speech-to-Text Translation for Zero-Shot Cross-Modal Transfer**

Paul-Ambroise Duquenne (Meta, Inria); Holger Schwenk (Facebook AI Research); Benoît Sagot (Inria)

Mon-04.2 🕒 11:20–11:40 **Improving Isochronous Machine Translation with Target Factors and Auxiliary Counters**

Proyag Pal (University of Edinburgh); Brian Thompson; Yogesh Virkar; Prashant Mathur (AWS AI Labs); Alexandra Chronopoulou (LMU Munich); Marcello Federico (AWS AI Labs)

Mon-04.3 🕒 11:40–12:00 **StyleS2ST: Zero-shot Style Transfer for Direct Speech-to-speech Translation**

Kun Song (Northwestern Polytechnical University); Yi Ren (Bytedance); Yi Lei (Northwestern Polytechnical University); Chunfeng Wang (Bytedance Inc); Kun Wei (School of Computer Science, Northwestern Polytechnical University); Lei Xie (NWPU); Xiang Yin (ByteDance AI LAB); Zejun Ma (Bytedance)

Mon-04.4 🕒 12:00–12:20 **Joint Speech Translation and Named Entity Recognition**

Marco Gaido (Fondazione Bruno Kessler); Sara Papi (Fondazione Bruno Kessler and University of Trento); Matteo Negri (Fondazione Bruno Kessler); Marco Turchi (Independent Researcher)

Mon-04.5 🕒 12:20–12:40 **Analysis of Acoustic information in End-to-End Spoken Language Translation**

Gerard Sant (Universitat Politècnica de Catalunya & Barcelona Supercomputing Center); Carlos Escolano (Universitat Politècnica de Catalunya)

Mon-04.6 🕒 12:40–13:00 **LAMASSU: A Streaming Language-Agnostic Multilingual Speech Recognition and Translation Model Using Neural Transducers**

Peidong Wang; Eric Sun (Microsoft); Jian Xue (Microsoft Corporation); Yu Wu; Long Zhou (Microsoft Research Asia); Yashesh Gaur (Microsoft); Shujie Liu (Microsoft Research Asia); Jinyu Li (Microsoft)

Mon-05 - Speech Production

ORAL 📍 Wicklow Hall 1

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Tamas Csapo, Caterina Petrone

Mon-05.1 🕒 11:00–11:40 - Survey Talk

Deep learning and explainability/interpretability for pathological voice and speech analysis

Corinne Fredouille

Mon-05.2 🕒 11:40–12:00 **Transvelar Nasal Coupling Contributing to Speaker Characteristics in Non-nasal Vowels**

Ziyu Zhu (College of Intelligence and Computing, Tianjin university); Yujie Chi (Tianjin University); Zhao Zhang (College of Intelligence and Computing, Tianjin University); Kiyoshi Honda (School of Computer Science and Technology, Tianjin University, Tianjin, China); Jianguo Wei (School of Computer Software, Tianjin University, Tianjin, China)

Mon-05.3 🕒 12:00–12:20 **Speech Synthesis from Articulatory Movements Recorded by Real-time MRI**

Yuto Otani; Shun Sawada; Hidefumi Ohmura; Kouichi Katsurada (Tokyo University of Science)

Mon-05.4 🕒 12:20–12:40 **The ART of Conversation: Measuring Phonetic Convergence and Deliberate Imitation in L2-Speech with a Siamese RNN**

Zheng Yuan; Aldo Pastore; Dorina de Jong (Istituto Italiano di Tecnologia); Hao Xu (University of California, San Diego); Luciano Fadiga; Alessandro D'Ausilio (Istituto Italiano di Tecnologia)

Mon-05.5 🕒 12:40–13:00 **Did you see that? Exploring the role of vision in the development of consonant feature contrasts in children with cochlear implants**

James Mahshie (George Washington University, Washington, DC, USA); Michael Larsen (St. Michaels College, Colchester, Vermont, USA)

Mon-06 - Dysarthric Speech Assessment

ORAL 📍 Liffey Meeting Room 2

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Juan Rafael Orozco-Arroyave , Helmer Strik

Mon-06.1 🕒 11:00–11:20 **Automatic assessments of dysarthric speech: the usability of acoustic-phonetic features**

Loes van Bommel (Radboud University); Chiara Pesenti (CLST); Xue Wei (Radboud University); Helmer Strik (Radboud Universiteit Nijmegen)

Mon-06.2 🕒 11:20–11:40 **Classification of Multi-class Vowels and Fricatives From Patients Having Amyotrophic Lateral Sclerosis with Varied Levels of Dysarthria Severity**

Chowdam Venkata Thirumala Kumar (Indian Institute of Science, Bengaluru); Tanuka Bhattacharjee (Indian Institute of Science); Yamini Belur; Atchayaram Nalini; Ravi Yadav (NIMHANS); Prasanta Kumar Ghosh (Indian Institute of Science (IISc), Bangalore)

Mon-06.3 🕒 11:40–12:00 **Parameter-efficient Dysarthric Speech Recognition Using Adapter Fusion and Householder Transformation**

Jinzi Qi (KU Leuven); Hugo Van hamme (KU LEUVEN)

Mon-06.4 🕒 12:00–12:20 **Few-shot Dysarthric Speech Recognition with Text-to-Speech Data Augmentation**

Enno Hermann (Idiap Research Institute); Mathew Magimai.-Doss (Idiap Research Institute)

Mon-06.5 🕒 12:20–12:40 **Latent Phrase Matching for Dysarthric Speech**

Dianna Yee; Colin Lea; Jaya Narain; Zifang Huang; Lauren Tooley; Jeffrey P. Bigham; Leah Findlater (Apple)

Mon-06.6 🕒 12:40–13:00 **Speech Intelligibility Assessment of Dysarthric Speech by using Goodness of Pronunciation with Uncertainty Quantification**

Eun Jung Yeo (Seoul National University); Kwanghee Choi (Carnegie Mellon University); Sunhee Kim; Minhwa Chung (Seoul National University)

Mon-07 - Speech Coding: Transmission and Enhancement

ORAL 📍 EcoCem Room

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Simone Graetzer, Tom Bäckström

Mon-07.1 🕒 11:00–11:40 - Survey Talk
On Speech Compression

Jan Skoglund

Mon-07.2 🕒 11:40–12:00 **CQNV: A Combination of Coarsely Quantized Bitstream and Neural Vocoder for Low Rate Speech Coding**

Youqiang Zheng (Wuhan University); Li Xiao (School of Computer Science, Wuhan University); Weiping Tu; Yuhong Yang; Xinmeng Xu (Wuhan University)

Mon-07.3 🕒 12:00–12:20 **Target Speech Extraction with Conditional Diffusion Model**

Naoyuki Kamo; Marc Delcroix (NTT); Tomohiro Nakatani (NTT Communication Science Laboratories)

Mon-07.4 🕒 12:20–12:40 **Towards Fully Quantized Neural Networks For Speech Enhancement**

Elad Cohen; Hai Victor Habi; Arnon Netzer (Sony)

Mon-07.5 🕒 12:40–13:00 **Complex Image Generation SwinTransformer Network for Audio Denoising**

Youshan Zhang (Yeshiva University); Jialu Li (Cornell University)

Mon-P1 - Analysis of Speech and Audio Signals 1

POSTER 📍 Forum Poster Area 1

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Richard Rose

Mon-P1.1 🕒 11:00–13:00 **Robust Prototype Learning for Anomalous Sound Detection**

Xiao-Min Zeng (University of Science and Technology of China); Yan Song (USTC); Ian McLoughlin (Singapore Institute of Technology); Lin Liu (iFLYTEK Co. Ltd.); Li-Rong Dai (University of Science and Technology of China)

Mon-P1.2 🕒 11:00–13:00 **A multimodal prototypical approach for unsupervised sound classification**

Saksham Singh Kushwaha (NYU); Magdalena Fuentes (New York University)

Mon-P1.3 🕒 11:00–13:00 **Robust Audio Anti-Spoofing with Fusion-Reconstruction Learning on Multi-Order Spectrograms**

Penghui Wen; Kun Hu; Wenxi Yue; Sen Zhang (The University of Sydney); Wanlei Zhou (City University of Macau); Zhiyong Wang (The University of Sydney)

Mon-P1.4 ⌚ 11:00–13:00 **Adapting Language-Audio Models as Few-Shot Audio Learners**

Jinhua Liang (Queen Mary University of London); Xubo Liu; Haohe Liu (University of Surrey); Huy Phan (Amazon Alexa); Emmanouil Benetos (Queen Mary University of London); Mark D. Plumbley; Wenwu Wang (University of Surrey)

Mon-P1.5 ⌚ 11:00–13:00 **TFECN: Time-Frequency Enhanced ConvNet for Audio Classification**

Mengwei Wang (Soochow University); Zhe Yang (Soochow University)

Mon-P1.6 ⌚ 11:00–13:00 **Resolution Consistency Training on Time-Frequency Domain for Semi-Supervised Sound Event Detection**

Won-Gook Choi (Hanyang University); Joon-Hyuk Chang (Hanyang University)

Mon-P1.7 ⌚ 11:00–13:00 **Fine-tuning Audio Spectrogram Transformer with Task-aware Adapters for Sound Event Detection**

Kang Li (University of Science and Technology of China, National Engineering Research Center of Speech and Language Information Processing.); Yan Song (USTC); Ian McLoughlin (Singapore Institute of Technology); Lin Liu (iFLYTEK Co. Ltd.); Jin Li; Li-Rong Dai (University of Science and Technology of China)

Mon-P1.8 ⌚ 11:00–13:00 **Small Footprint Multi-channel Network for Keyword Spotting with Centroid Based Awareness**

Dianwen Ng (Alibaba Group/Nanyang Technological University); Yang Xiao (Nanyang Technological University); Jia Qi Yip (Alibaba Group); Zhao Yang (Xi'an Jiaotong University); Biao Tian; Qiang Fu (Alibaba Group); Eng Siong Chng (Nanyang Technological University); Bin Ma (Alibaba, Singapore R&D Center)

Mon-P1.9 ⌚ 11:00–13:00 **Few-shot Class-incremental Audio Classification Using Adaptively-refined Prototypes**

Wei Xie; Yanxiong Li; Qianhua He; Wenchang Cao (South China University of Technology); Tuomas Virtanen (Tampere University)

Mon-P1.10 ⌚ 11:00–13:00 **Interpretable Latent Space Using Space-Filling Curves for Phonetic Analysis in Voice Conversion**

Mohammad Hassan Vali (Aalto University); Tom Bäckström (Aalto University)

Mon-P1.11 ⌚ 11:00–13:00 **Topological Data Analysis for Speech Processing**

Eduard Tulchinskii (Noah's Ark Lab, Huawei); Kristian Kuznetsov; Laida Kushnareva (Huawei); Daniil Cherniavskii (AIRI); Serguei Barannikov (Skolkovo Institute of Science and Technology); Irina Piontkovskaya (Huawei Noah's Ark Lab); Sergey Nikolenko (PDMI RAS); Evgeny Burnaev (Skoltech)

Mon-P1.12 ⌚ 11:00–13:00 **Recycle-and-Distill: Universal Compression Strategy for Transformer-based Speech SSL Models with Attention Map Reusing and Masking Distillation**

Kangwook Jang; Sungnyun Kim; Se-Young Yun; Hoirin Kim (KAIST)

Mon-P1.13 ⌚ 11:00–13:00 **Personalized Acoustic Scene Classification in Ultra-low Power Embedded Devices Using Privacy-preserving Data Augmentation**

Timm Koppelman; Semih Agcaer; Rainer Martin (Institute of Communication Acoustics, Ruhr-University Bochum)

Mon-P1.14 ⌚ 11:00–13:00 **Background Domain Switch: A Novel Data Augmentation Technique for Robust Sound Event Detection**

Wei-Cheng Lin (The University of Texas at Dallas); Luca Bondi (Bosch Research); Shabnam Ghaffarzadegan (BOSCH Research North America)

Mon-P1.15 ⌚ 11:00–13:00 **Joint Prediction of Audio Event and Annoyance Rating in an Urban Soundscape by Hierarchical Graph Representation Learning**

Yuanbo Hou (Ghent University); Siyang Song (University of Leicester); Cheng Luo (Shenzhen University); Andrew Mitchell (University College London); Qiaoqiao Ren (Ghent University-Imec); Weicheng Xie (Shenzhen University); Jian Kang (University College London); Wenwu Wang (University of Surrey); Dick Botteldooren (Ghent University)

Mon-P1.16 🕒 11:00–13:00 **Anomalous Sound Detection Using Self-Attention-Based Frequency Pattern Analysis of Machine Sounds**

Hejing Zhang; Jian Guan (Harbin Engineering University); Qiaoxi Zhu (University of Technology Sydney); Feiyang Xiao (Harbin Engineering University); Youde Liu (Harbin Institute of Technology)

Mon-P1.17 🕒 11:00–13:00 **Improving Audio-Text Retrieval via Hierarchical Cross-Modal Interaction and Auxiliary Captions**

Yifei Xin (Peking University); Yuexian Zou (Peking University)

Mon-P1.18 🕒 11:00–13:00 **Differential Privacy enabled Dementia Classification: An Exploration of the Privacy-Accuracy Trade-off in Speech Signal Data**

Suhas BN (Pennsylvania State University); Sarah Rajtmajer (Penn State); Saeed Abdullah (Penn State University, USA)

Mon-P1.19 🕒 11:00–13:00 **Learning Emotional Representations from Imbalanced Speech Data for Speech Emotion Recognition and Emotional Text-to-Speech**

Shijun Wang (University of St. Gallen); Jón Guðnason (Reykjavik University); Damian Borth (University of St. Gallen)

Mon-P1.20 🕒 11:00–13:00 **Towards Multi-Lingual Audio Question Answering**

Swarup Ranjan Behera; Pailla Balakrishna Reddy; Achyut Mani Tripathi; Megavath Bharadwaj Rathod; Tejesh Karavadi (Reliance Jio AICoE)

Mon-P2 - Speech Recognition: Signal Processing, Acoustic Modeling, Robustness, Adaptation 1

POSTER 📍 Forum Poster Area 2

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Erfan Loweimi

Mon-P2.1 🕒 11:00–13:00 **Using Text Injection to Improve Recognition of Personal Identifiers in Speech**

Yochai Blau; Rohan Agrawal; Lior Madmony; Gary Wang (Google); Andrew Rosenberg (Google LLC); Zhehuai Chen; Zorik Gekhman; Genady Beryozkin; Parisa Haghani; Bhuvana Ramabhadran (Google)

Mon-P2.2 🕒 11:00–13:00 **Investigating wav2vec2 context representations and the effects of fine-tuning, a case-study of a Finnish model**

Tamas Grosz; Yaroslav Getman; Ragheb Al-Ghezi; Aku Rouhe; Mikko Kurimo (Aalto University)

Mon-P2.3 🕒 11:00–13:00 **Transformer-based Speech Recognition Models for Oral History Archives in English, German, and Czech**

Jan Lehečka; Jan Švec (University of West Bohemia); Josef V. Psutka (University of West Bohemia Pilsen); Pavel Ircing (University of West Bohemia)

Mon-P2.4 🕒 11:00–13:00 **Iteratively Improving Speech Recognition and Voice Conversion**

Mayank Kumar Singh (Sony Research India); Naoya Takahashi (Sony Group); Naoyuki Onoe (Sony)

Mon-P2.5 🕒 11:00–13:00 **LABERT: A Combination of Local Aggregation and Self-Supervised Speech Representation Learning for Detecting Informative Hidden Units in Low-Resource ASR Systems**

Kavan Fatehi (University of Nottingham); Ayse Kucukyilmaz (University of Nottingham)

Mon-P2.6 🕒 11:00–13:00 **TranUSR: Phoneme-to-word Transcoder Based Unified Speech Representation Learning for Cross-lingual Speech Recognition**

Hongfei Xue (NWPU); Qijie Shao; Peikun Chen; Pengcheng Guo (Northwestern Polytechnical University); Lei Xie (NWPU); Jie Liu (Huawei Cloud)

Mon-P2.7 🕒 11:00–13:00 **Dual-Mode NAM: Effective Top-K Context Injection for End-to-End ASR**

Zelin Wu; Tsendsuren Munkhdalai; Pat Rondon (Google LLC); Golan Pundak (Google); Khe Chai Sim (Google Inc.); Christopher Li (Google)

Mon-P2.8 🕒 11:00–13:00 **GhostRNN: Reducing State Redundancy in RNN with Cheap Operations**

Hang Zhou (Tianjin University, Huawei Noah's Ark Lab); Xiaoxu Zheng (HUAWEI INTERNATIONAL PTE LTD); Yunhe Wang (Huawei Noah's Ark Lab); Michael Bi Mi (HUAWEI); Deyi Xiong (Tianjin University); Kai Han (Huawei Noah's Ark Lab)

Mon-P2.9 🕒 11:00–13:00 **Task-Agnostic Structured Pruning of Speech Representation Models**

Haoyu Wang; Siyuan Wang; Wei-Qiang Zhang (Tsinghua University); Suo Hongbin; Yulong Wan (OPPO)

Mon-P2.10 🕒 11:00–13:00 **Factual Consistency Oriented Speech Recognition**

Naoyuki Kanda; Takuya Yoshioka; Yang Liu (Microsoft)

Mon-P2.11 🕒 11:00–13:00 **Multi-Head State Space Model for Speech Recognition**

Yassir Fathullah (University of Cambridge); Chunyang Wu (Meta AI Research); Yuan Shangguan; Junteng Jia (Meta AI); Wenhan Xiong (Meta); Jay Mahadeokar; Chunxi Liu (Meta AI); Yangyang Shi (Facebook); Ozlem Kalinli; Mike Seltzer (Meta AI); Mark J. F. Gales (University of Cambridge)

Mon-P2.12 🕒 11:00–13:00 **Cascaded Multi-task Adaptive Learning Based on Neural Architecture Search**

Yingying Gao; Shilei Zhang; Zihao Cui; Chao Deng (China Mobile Research Institute); Junlan Feng (China Mobile Research)

Mon-P2.13 🕒 11:00–13:00 **Probing Self-supervised Speech Models for Phonetic and Phonemic Information: A Case Study in Aspiration**

Kinan Martin (Massachusetts Institute of Technology); Jon Gauthier (MIT); Canaan Breiss; Roger Levy (Massachusetts Institute of Technology)

Mon-P2.14 🕒 11:00–13:00 **Selective Biasing with Trie-based Contextual Adapters for Personalised Speech Recognition using Neural Transducers**

Philip Harding (Amazon Alexa); Sibor Tong; Simon Wiesler (Amazon)

Mon-P3 - Speech Recognition: Architecture, Search, and Linguistic Components 1

POSTER 📍 Forum Poster Area 3

📅 Monday 21 August 2023 🕒 11:00–13:00
Session chairs : Tatsuya Kawahara

Mon-P3.1 🕒 11:00–13:00 **Diacritic Recognition Performance in Arabic ASR**

Hanan Aldarmaki (MBZUAI); Ahmad Ghannam (MBZUAI)

Mon-P3.2 🕒 11:00–13:00 **Personalization for BERT-based Discriminative Speech Recognition Rescoring**

Jari Kolehmainen (Amazon); Yile Gu (Amazon.com, USA); Aditya Gourav; Prashanth Gurunath Shivakumar (Amazon); Ankur Gandhe; Ariya Rastrow (Amazon Alexa); Ivan Bulyko (Amazon)

Mon-P3.3 🕒 11:00–13:00 **On the N-gram Approximation of Pre-trained Language Models**

Aravind Krishnan; Jesujoba O. Alabi; Dietrich Klakow (Saarland University)

Mon-P3.4 🕒 11:00–13:00 **Record Deduplication for Entity Distribution Modeling in ASR Transcripts**

Tianyu Huang; Chung Hoon Hong; Carl Wivagg; Kanna Shimizu (Amazon)

Mon-P3.5 🕒 11:00–13:00 **Learning When to Trust Which Teacher for Weakly Supervised ASR**

Aakriti Agrawal (University of Maryland, College Park); Milind Rao (Amazon); Anit Kumar Sahu (Amazon Alexa AI); Gopinath Chennupati (Amazon Alexa); Andreas Stolcke (Amazon)

Mon-P3.6 🕒 11:00–13:00 **Text-only Domain Adaptation using Unified Speech-Text Representation in Transducer**

Lu Huang; Boyu Li; Jun Zhang; Lu Lu; Zejun Ma (Bytedance)

Mon-P4 - Speech Recognition: Technologies and Systems for New Applications 1

POSTER 📍 Forum Poster Area 4

📅 Monday 21 August 2023 ⌚ 11:00–13:00
Session chairs : Helen Meng

Mon-P4.1 ⌚ 11:00–13:00 **Syllable Discovery and Cross-Lingual Generalization in a Visually Grounded, Self-Supervised Speech Model**

Puyuan Peng (The University of Texas at Austin); Shang-Wen Li (AWS AI); Okko Räsänen (Tampere University); Abdelrahman Mohamed (Rembrand Inc); David Harwath (The University of Texas at Austin)

Mon-P4.2 ⌚ 11:00–13:00 **Prompting the Hidden Talent of Web-Scale Speech Models for Zero-Shot Task Generalization**

Puyuan Peng (The University of Texas at Austin); Brian Yan; Shinji Watanabe (Carnegie Mellon University); David Harwath (The University of Texas at Austin)

Mon-P4.3 ⌚ 11:00–13:00 **Progress and Prospects for Spoken Language Technology: Results from Five Sexennial Surveys**

Roger K. Moore (The University of Sheffield); Ricard Marxer (Université de Toulon, Aix Marseille Univ, CNRS, LIS, Toulon)

Mon-P4.4 ⌚ 11:00–13:00 **Acoustic Word Embeddings for Untranscribed Target Languages with Continued Pretraining and Learned Pooling**

Ramon Sanabria (The University Of Edinburgh); Ondřej Klejch (University of Edinburgh); Hao Tang (The University of Edinburgh); Sharon Goldwater (University of Edinburgh)

Mon-P4.5 ⌚ 11:00–13:00 **CASA-ASR: Context-Aware Speaker-Attributed ASR**

Mohan Shi (University of Science and Technology of China); Zhihao Du (Alibaba Group); Qian Chen (Speech Lab, DAMO Academy, Alibaba Group); Fan Yu (Alibaba Group); Yangze Li (Northwestern Polytechnical University); Shiliang Zhang (Alibaba Group); Jie Zhang (University of Science and Technology of China (USTC));

Li-Rong Dai (University of Science and Technology of China)

Mon-P4.6 ⌚ 11:00–13:00 **Unsupervised Learning of Discrete Latent Representations with Data-Adaptive Dimensionality from Continuous Speech Streams**

Shun Takahashi (Japan Advanced Institute of Science and Technology); Sakriani Sakti (Japan Advanced Institute of Science and Technology)

Mon-P4.7 ⌚ 11:00–13:00 **AD-TUNING: An Adaptive CHILD-TUNING Approach to Efficient Hyperparameter Optimization of Child Networks for Speech Processing Tasks in the SUPERB Benchmark**

Gaobin Yang; Jun Du; Maokui He; Shutong Niu (University of Science and Technology of China); Baoxiang Li (sensesense); Jiakui Li (SenseTime Group Limited); Chih-Hui Lee (Georgia Institute of Technology)

Mon-P4.8 ⌚ 11:00–13:00 **Distilling knowledge from Gaussian process teacher to neural network student**

Jeremy H. M. Wong; Huayun Zhang; Nancy F. Chen (Institute for Infocomm Research, ASTAR)

Mon-P4.9 ⌚ 11:00–13:00 **Segmental Speech-CLIP: Utilizing Pretrained Image-text Models for Audio-Visual Learning**

Saurabhchand Bhati (Johns Hopkins University); Jesús Villalba (Johns Hopkins University (JHU)); Laureano Moro-Velazquez; Thomas Thebaud; Najim Dehak (Johns Hopkins University)

Mon-P4.10 ⌚ 11:00–13:00 **Towards hate speech detection in low-resource languages: Comparing ASR to acoustic word embeddings on Wolof and Swahili**

Christiaan Jacobs (Stellenbosch University); Nathanaël Carraz Rakotonirina (Universitat Pompeu Fabra); Evelyn Asiko Chimoto (African Institute for Mathematical Sciences); Bruce A. Bassett (University of Cape Town); Herman Kamper (Stellenbosch University)

Mon-P4.11 ⌚ 11:00–13:00 **Mitigating Catastrophic Forgetting for Few-Shot Spoken Word Classification Through Meta-Learning**

Ruan van der Merwe (ByteFuse AI); Herman Kamper (Stellenbosch University)

Mon-P4.12 🕒 11:00–13:00 **Online Punctuation Restoration using ELECTRA Model for streaming ASR Systems**

Martin Poláček; Petr Červa; Jindřich Žďánský (Technical University of Liberec); Lenka Weingartová (NEWTON Technologies)

Mon-P4.13 🕒 11:00–13:00 **Language Agnostic Data-Driven Inverse Text Normalization**

Szu-Jui Chen (University of Texas at Dallas); Debjyoti Paul (Facebook); Yutong Pang (Meta AI); Peng Su (Meta); Xuedong Zhang (Meta AI)

Mon-P4.14 🕒 11:00–13:00 **How to Estimate Model Transferability of Pre-Trained Speech Models?**

Zih-Ching Chen (National Taiwan University); Chao-Han Huck Yang (Georgia Institute of Technology); Bo Li; Yu Zhang; Nanxin Chen; Shuo-Yiin Chang; Rohit Prabhavalkar (Google); Hung-yi Lee (National Taiwan University); Tara Sainath (Google)

Mon-P4.15 🕒 11:00–13:00 **Transcribing Speech as Spoken and Written Dual Text Using an Autoregressive Model**

Mana Ihori; Hiroshi Sato (NTT Corporation); Tomohiro Tanaka (NTT); Ryo Masumura (NTT Corporation); Saki Mizuno (NTT Computer & Data Science Laboratories); Nobukatsu Hojo (NTT Corporation)

Mon-S1 - Assessing and Mitigating AI Bias in Speech Processing Systems (Panel Discussion)

SPECIAL 📍 Wicklow Meeting Room 1

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Craig Greenberg, John H. Hansen

Mon-S1.PAN 🕒 14:30–16:30 **Panel discussion**

Mon-O8 - Lexical and Language Modeling for ASR

ORAL 📍 The Auditorium

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Mikko Kurimo, Herman Kamper

Mon-O8.1 🕒 14:30–14:50 **NoRefER: a Referenceless Quality Metric for Automatic Speech Recognition via Semi-Supervised Language Model Fine-Tuning with Contrastive Learning**

Kamer Ali Yuksel (aiXplain, inc.); Thiago Castro Ferreira (aiXplain Inc.); Golara Javadi; Mohamed Al-Badrashiny (aiXplain); Ahmet Gunduz (aiXplain Inc.)

Mon-O8.2 🕒 14:50–15:10 **Scaling Laws for Discriminative Speech Recognition Rescoring Models**

Yile Gu (Amazon.com, USA); Prashanth Gurunath Shivakumar; Jari Kolehmainen (Amazon); Ankur Gandhe; Ariya Rastrow (Amazon Alexa); Ivan Bulyko (Amazon)

Mon-O8.3 🕒 15:10–15:30 **Exploring Energy-based Language Models with Different Architectures and Training Methods for Speech Recognition**

Hong Liu (Tsinghua University); Zhaobiao Lv (Industrial Internet Co. Lts); Zhijian Ou (Tsinghua University); Wenbo Zhao (Industrial Internet Co. Ltd.); Qing Xiao (Industrial Internet Co. Ltd)

Mon-O8.4 🕒 15:30–15:50 **Memory Augmented Lookup Dictionary Based Language Modeling for Automatic Speech Recognition**

Yukun Feng (Department of Computer Science, Johns Hopkins University); Ming Tu; Rui Xia; Chuanzeng Huang (ByteDance Inc); Yuxuan Wang (ByteDance AI Lab)

Mon-O8.5 🕒 15:50–16:10 **Memory Network-Based End-To-End Neural ES-KMeans for Improved Word Segmentation**

Yu Iwamoto (Tokyo institute of technology); Takahiro Shinozaki (Tokyo Institute of Technology)

Mon-O8.6 🕒 16:10–16:30 **Retraining-free**

Customized ASR for Enharmonic Words Based on a Named-Entity-Aware Model and Phoneme Similarity Estimation

Yui Sudo (Honda Research Institute Japan); Kazuya Hata (Honda Research Institute); Kazuhiro Nakadai (Tokyo Institute of Technology)

Mon-09 - Language Identification and Diarization

ORAL 📍 Wicklow Hall 2

📅 Monday 21 August 2023 ⌚ 14:30–16:30
Session chairs : Leibny Paola Garcia Perera, Xiaoxiao Miao

Mon-09.1 ⌚ 14:30–14:50 Lightweight and Efficient Spoken Language Identification of Long-form Audio

Winstead Zhu; Md Iftekhar Tanveer (Spotify); Yang Janet Liu (Georgetown University); Seye Ojumu; Rosie Jones (Spotify)

Mon-09.2 ⌚ 14:50–15:10 End to End Spoken Language Diarization with Wav2vec Embeddings

Jagabandhu Mishra (IIT Dharwad); Jayadev N Patil (KLE Technological University); Amartya Chowdhury (Indian Institute of Technology); Mahadeva Prasanna (IIT Dharwad)

Mon-09.3 ⌚ 15:10–15:30 Efficient Spoken Language Recognition via Multilabel Classification

Oriol Nieto; Zeyu Jin; Franck Deroncourt; Justin Salmon (Adobe Research)

Mon-09.4 ⌚ 15:30–15:50 Description and Analysis of ABC Submission to NIST LRE 2022

Pavel Matejka; Anna Silnova (Brno University of Technology); Josef Slavíček (Phonexia); Ladislav Mosner; Oldřich Píchot (Brno University of Technology); Michal Klčo (Phonexia); Junyi Peng (Brno University of Technology); Themis Stafylakis (Omilia - Conversational Intelligence); Lukáš Burget (Brno University of Technology)

Mon-09.5 ⌚ 15:50–16:10 Exploring the Impact of Pretrained Models and Web-Scraped

Data for the 2022 NIST Language Recognition Evaluation

Tanel Alumäe; Kunnar Kukk (Tallinn University of Technology); Viet-Bac Le; Claude Barras; Abdel Messaoudi; Waad Ben Kheder (Vocapia Research)

Mon-09.6 ⌚ 16:10–16:30 Advances in Language Recognition in Low Resource African Languages: The JHU-MIT Submission for NIST LRE22

Jesús Villalba (Johns Hopkins University); Jonas Borgstrom (MIT Lincoln Laboratory); Maliha Jahan; Saurabh Kataria; Leibny Paola Garcia (Johns Hopkins University); Pedro Torres-Carrasquillo (Massachusetts Institute of Technology Lincoln Laboratory); Najim Dehak (Johns Hopkins University)

Mon-010 - Speech Quality Assessment

ORAL 📍 Liffey Hall 2

📅 Monday 21 August 2023 ⌚ 14:30–16:30
Session chairs : Mathew Magiami Doss, Thomas Arias

Mon-010.1 ⌚ 14:30–14:50 DeePMOS: Deep Posterior Mean-Opinion-Score of Speech

Xinyu Liang (KTH Royal Institute of Technology); Fredrik Cumlin (Codemill AB); Christian Schüldt (Google); Saikat Chatterjee (KTH Royal Institute of Technology)

Mon-010.2 ⌚ 14:50–15:10 The Role of Formant and Excitation Source Features in Perceived Naturalness of Low Resource Tribal Language TTS: An Empirical Study

Ashwini Dasare (Indian Institute of Information Technology, Dharwad.); Pradyoth Hegde (Indian Institute of Information Technology); Supritha Shetty (Indian Institute of Information Technology, Dharwad); Deepak K T (IIIT-Dharwad)

Mon-010.3 ⌚ 15:10–15:30 A no-reference speech quality assessment method based on neural network with densely connected convolutional architecture

Wuxuan Gong; Jing Wang; Yitong Liu; Hongwen Yang (Beijing university of posts and telecommunications)

Mon-O10.4 🕒 15:30–15:50 **Probing Speech Quality Information in ASR Systems**

Bao Thang Ta (Viettel Cyberspace Center); Minh Tu Le (Viettel Cyberspace Center, Viettel Group); Nhat Minh Le (Viettel Cyberspace Center); Van Hai Do (TLU)

Mon-O10.5 🕒 15:50–16:10 **Preference-based training framework for automatic speech quality assessment using deep neural network**

Cheng-Hung Hu; Yusuke Yasuda; Tomoki Toda (Nagoya University)

Mon-O10.6 🕒 16:10–16:30 **Crowdsourced Data Validation for ASR Training**

Wannaphong Phatthiyaphaibun (Vidyasirimedhi Institute of Science and Technology); Chompakorn Chak-sangchaichot (Chulalongkorn University); Thanawin Rak-thammanon (kasetsart university); Ekapol Chuang-suwanich (Chulalongkorn University); Sarana Nutanong (Vidyasirimedhi Institute of Science and Technology)

Mon-O11 - Feature Modeling for ASR

ORAL 📍 Liffey Hall 1

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Eric Fosler-Lussier, Björn Schuller

Mon-O11.1 🕒 14:30–14:50 **Re-investigating the Efficient Transfer Learning of Speech Foundation Model using Feature Fusion Methods**

Zhouyuan Huo (Google); Khe Chai Sim (Google Inc.); Dongseong Hwang (Google); Tsendsuren Munkhdalai (Google LLC); Tara Sainath; Pedro M. Mengibar (Google)

Mon-O11.2 🕒 14:50–15:10 **Robust Automatic Speech Recognition via WavAugment Guided Phoneme Adversarial Training**

Gege Qi (Alibaba); Yuefeng Chen; Xiaofeng Mao (Alibaba Group); Xiaojun Jia (Institute of Information Engineering, Chinese Academy of Sciences); Ranjie Duan (Alibaba Group); Rong Zhang; Hui Xue (Alibaba)

Mon-O11.3 🕒 15:10–15:30 **InterFormer: Interactive Local and Global Features Fusion for**

Automatic Speech Recognition

Zhi-Hao Lai; Tian-Hao Zhang; Qi Liu (University of Science and Technology Beijing); Xinyuan Qian (USTB); Li-Fang Wei (University of Science and Technology Beijing); Feng Chen (EEasy Technology Co. LTD); Song-Lu Chen (University of Science and Technology); Xu-Cheng Yin (University of Science and Technology Beijing)

Mon-O11.4 🕒 15:30–15:50 **Transductive Feature Space Regularization for Few-shot Bioacoustic Event Detection**

Yizhou Tan; Haojun Ai (Wuhan University); Shengchen Li (Xi'an Jiaotong-Liverpool University); Feng Zhang (Wuhan University)

Mon-O11.5 🕒 15:50–16:10 **Incorporating L2 Phonemes Using Articulatory Features for Robust Speech Recognition**

Jisung Wang; Haram Lee (Naver Cloud); Myungwoo Oh (NAVER Cloud Corporation)

Mon-O11.6 🕒 16:10–16:30 **On the (In)Efficiency of Acoustic Feature Extractors for Self-Supervised Speech Representation Learning**

Titouan Parcollet (Samsung AI Cambridge / University of Cambridge); Shucong Zhang (Samsung); Rogier van Dalen (Samsung AI Center, Cambridge); Alberto Gil C. P. Ramos (Samsung); Sourav Bhattacharya (Samsung AI Centre)

Mon-O12 - Interfacing Speech Technology and Phonetics

ORAL 📍 Wicklow Hall 1

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Martin Cooke, Thomas Hueber

Mon-O12.1 🕒 14:30–15:10 - Survey Talk **How neural network architectures in speech technology can inform basic research in phonetics, and vice versa**

Petra Wagner, Reinhold Haeb-Umbach

Mon-O12.3 🕒 15:10–15:30 **Phonemic competition in end-to-end ASR models**

Louis ten Bosch (radboud unversity); Martijn Bentum (Radboud University); Lou Boves (Radboud University Nijmegen)

Mon-O12.4 🕒 15:30–15:50 **Automatic speaker recognition with variation across vocal conditions: a controlled experiment with implications for forensics**

Vincent Hughes; Jessica Wormald; Paul Foulkes; Philip Harrison (University of York); Finnian Kelly (Oxford Wave Research); David van der Vloed (Netherlands Forensic Institute); Poppy Welch; Chenzi Xu (University of York)

Mon-O12.5 🕒 15:50–16:10 **Exploring Graph Theory Methods For the Analysis of Pronunciation Variation in Spontaneous Speech**

Bernhard C. Geiger (Know-Center GmbH); Barbara Schuppler (Graz University of Technology)

Mon-O12.6 🕒 16:10–16:30 **Automatic Speaker Recognition performance with matched and mismatched female bilingual speech data**

Bryony Nuttall (Forensic Voice Centre); Philip Harrison; Vincent Hughes (University of York)

Mon-O13 - Speech Synthesis: Multilinguality

ORAL 📍 Liffey Meeting Room 2

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Andrew Breen, Vincent Pollet

Mon-O13.1 🕒 14:30–14:50 **FACTSpeech: Speaking a Foreign Language Pronunciation Using Only Your Native Characters**

Hong-Sun Yang; Ji-Hoon Kim; Yoon-Cheol Ju; Il-Hwan Kim; Byeong-Yeol Kim; Shuk-Jae Choi; Hyung-Yong Kim (42dot)

Mon-O13.2 🕒 14:50–15:10 **Cross-Lingual Transfer Learning for Phrase Break Prediction with Multilingual Language Model**

Hoyeon Lee; Hyun-Wook Yoon (NAVER Cloud Corp.); Jong-Hwan Kim (NAVER Cloud); Jae-Min Kim (NAVER Cloud Corp.)

Mon-O13.3 🕒 15:10–15:30 **DSE-TTS: Dual Speaker Embedding for Cross-Lingual Text-to-Speech**

Sen Liu; Yiwei Guo; Chenpeng Du (Shanghai Jiao Tong University); Xie Chen (Shanghai Jiaotong University); Kai Yu (Shanghai Jiao Tong University)

Mon-O13.4 🕒 15:30–15:50 **Generating Multilingual Gender-Ambiguous Text-to-Speech Voices**

Konstantinos Markopoulos; Georgia Maniati; Georgios Vamvoukakis; Nikolaos Ellinas; Georgios Vardaxoglou; Panos Kakoulidis; Junkwang Oh; Gunu Jho; Inchul Hwang; Aimilios Chalamandaris; Pirros Tsiakoulis; Spyros Raptis (Samsung Electronics)

Mon-O13.5 🕒 15:50–16:10 **RAD-MMM: Multilingual Multiaccented Multispeaker Text To Speech**

Rohan Badlani; Rafael Valle; Kevin J. Shih; João Felipe Santos; Siddharth Gururani; Bryan Catanzaro (NVIDIA)

Mon-O13.6 🕒 16:10–16:30 **Multilingual context-based pronunciation learning for Text-to-Speech**

Giulia Comini (Amazon); Sam Ribeiro; Fan Yang; Heereen Shim (Amazon Alexa); Jaime Lorenzo-Trueba (Amazon)

Mon-O14 - Speech Emotion Recognition 1

ORAL 📍 EcoCem Room

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Shri Narayanan, Fei Chen

Mon-O14.1 🕒 14:30–14:50 **Personalized Adaptation with Pre-trained Speech Encoders for Continuous Emotion Recognition**

Minh Tran; Yufeng Yin; Mohammad Soleymani (University of Southern California)

Mon-O14.2 🕒 14:50–15:10 **The Importance of Calibration: Rethinking Confidence and Performance of Speech Multi-label Emotion Classifiers**

Huang-Cheng Chou (Department of Electrical Engineering at National Tsing Hua University (NTHU)); Lucas Goncalves (The University of Texas at Dallas); Seong-Gyun Leem (University of Texas at Dallas); Chi-Chun Lee (National Tsing Hua University); Carlos Busso (University of Texas at Dallas)

Mon-O14.3 ⌚ 15:10–15:30 **A Preliminary Study on Augmenting Speech Emotion Recognition using a Diffusion Model**

Mohammad Ibrahim Malik (Emulationai); Siddique Latif; Raja Jurdak (Queensland University of Technology); Björn W. Schuller (Imperial College London)

Mon-O14.4 ⌚ 15:30–15:50 **Privacy Risks in Speech Emotion Recognition: A Systematic Study on Gender Inference Attack**

Basmah Alsenani; Tanaya Guha; Alessandro Vinciarelli (University of Glasgow)

Mon-O14.5 ⌚ 15:50–16:10 **Episodic Memory For Domain-Adaptable, Robust Speech Emotion Recognition**

James Tavernor; Matthew Perez; Emily Mower Provost (University of Michigan)

Mon-O14.6 ⌚ 16:10–16:30 **Stable Speech Emotion Recognition with Head-k-Pooling Loss**

Chaoyue Ding; Jiakui Li (SenseTime Group Limited); Daoming Zong (East China Normal University); Baoxiang Li (sensetime); Tian-Hao Zhang (University of Science and Technology Beijing); Qunyan Zhou (SenseTime Research)

Mon-P5 - Speech Coding and Enhancement 1

POSTER 📍 Forum Poster Area 1

📅 Monday 21 August 2023 ⌚ 14:30–16:30
Session chairs : Yuma Koizumi

Mon-P5.1 ⌚ 14:30–16:30 **Biophysically-inspired single-channel speech enhancement in the time domain**

Chuan Wen (Ghent University); Sarah Verhulst (Ghent University)

Mon-P5.2 ⌚ 14:30–16:30 **On-Device Speaker Anonymization of Acoustic Embeddings for ASR based on Flexible Location Gradient Reversal Layer**

Md Asif Jalal; Pablo Peso Parada; Jisi Zhang; Mete Ozay (Samsung Research UK); Karthikeyan Saravanan (Samsung Research, UK); Myoungji Han (Samsung); Jung In Lee; Seokyeong Jung (Samsung Electronics)

Mon-P5.3 ⌚ 14:30–16:30 **How to Construct Perfect and Worse-than-Coin-Flip Spoofing Countermeasures: A Word of Warning on Shortcut Learning**

Hye-jin Shim (University of Eastern Finland); Rosa Gonzalez Hautamäki (University of Oulu); Md Sahidullah (Institute for Advancing Intelligence, TCG CREST); Tomi Kinnunen (University of Eastern Finland)

Mon-P5.4 ⌚ 14:30–16:30 **CleanUNet 2: A Hybrid Speech Denoising Model on Waveform and Spectrogram**

Zhifeng Kong (University of California San Diego); Wei Ping; Amrbrish Dantrey; Bryan Catanzaro (NVIDIA)

Mon-P5.5 ⌚ 14:30–16:30 **A Two-stage Progressive Neural Network for Acoustic Echo Cancellation**

Zhuangqi Chen (South China University of Technology); Xianjun Xia (RTC Lab, ByteDance); Cheng Chen (ByteDance); Xianke Wang (Huazhong University of Science and Technology); Yanhong Leng (Bytedance Inc); Li Chen (ByteDance); Roberto Togneri (The University of Western Australia); Yijian Xiao; Piao Ding; Shenyi Song (ByteDance); Pingjian Zhang (South China University of Technology)

Mon-P5.6 ⌚ 14:30–16:30 **An Intra-BRNN and GB-RVQ Based END-TO-END Neural Audio Codec**

Liping Xu (Beijing University of Posts and Telecommunications); Jiawei Jiang; Dejun Zhang (ByteDance); Xianjun Xia (RTC Lab, ByteDance); Li Chen; Yijian Xiao; Piao Ding; Shenyi Song (ByteDance); Sixing Yin (Beijing University of Posts and Telecommunications); Ferdous Sohel (Murdoch University)

Mon-P5.7 ⌚ 14:30–16:30 **Real-Time Personalised Speech Enhancement Transformers with Dynamic Cross-attended Speaker Representations**

Shucong Zhang (Samsung AI Centre Cambridge); Malcolm Chadwick (Samsung AI Centre); Alberto Gil C. P. Ramos (Samsung); Titouan Parcollet (Samsung AI Centre); Rogier van Dalen (Samsung AI Center, Cambridge); Sourav Bhattacharya (Samsung AI Centre)

Mon-P5.8 ⌚ 14:30–16:30 **CFTNet: Complex-valued Frequency Transformation Network for Speech Enhancement**

Nursadul Mamun (University of Texas at Dallas); John H. L. Hansen (University of Texas at Dallas)

Mon-P5.9 ⌚ 14:30–16:30 **Feature Normalization for Fine-tuning Self-Supervised Models in Speech Enhancement**

Hejung Yang (Yonsei University); Hong-Goo Kang (Yonsei University)

Mon-P5.10 ⌚ 14:30–16:30 **Multi-mode Neural Speech Coding Based on Deep Generative Networks**

Wei Xiao; Wenzhe Liu; Meng Wang; Shan Yang; Yupeng Shi; Yuyong Kang; Dan Su; Shidong Shang; Dong Yu (Tencent)

Mon-P5.11 ⌚ 14:30–16:30 **Streaming Dual-Path Transformer for Speech Enhancement**

Soo Hyun Bae; Seok Wan Chae; Youngseok Kim; Keunsang Lee; Hyunjin Lim; Lae-Hoon Kim (Samsung electronics)

Mon-P5.12 ⌚ 14:30–16:30 **Sequence-to-Sequence Multi-Modal Speech In-Painting**

Mahsa Kadkhodaei Elyaderani (McMaster University); Shahram Shirani (McMaster University)

Mon-P5.13 ⌚ 14:30–16:30 **Hybrid AHS: A Hybrid of Kalman Filter and Deep Learning for Acoustic Howling Suppression**

Hao Zhang (Tencent AI Lab); Meng Yu (Tencent); Yuzhong Wu (Tencent Ethereal Audio Lab); Tao Yu (Tencent); Dong Yu (Tencent AI Lab)

Mon-P5.14 ⌚ 14:30–16:30 **Differentially Private Adapters for Parameter Efficient Acoustic Modeling**

Chun-Wei Ho; Chao-Han Huck Yang (Georgia Institute of Technology); Sabato Marco Siniscalchi (Kore University of Enna)

Mon-P5.15 ⌚ 14:30–16:30 **Incorporating Ultrasound Tongue Images for Audio-Visual Speech Enhancement through Knowledge Distillation**

Rui-Chen Zheng; Yang Ai; Zhen-Hua Ling (University of Science and Technology of China)

Mon-P5.16 ⌚ 14:30–16:30 **Consonant-emphasis Method Incorporating Robust Consonant-section Detection to Improve Intelligibility of Bone-conducted speech**

Yasufumi Uezu (Japan Advanced Institute of Science and Technology); Sicheng Wang (Japan Advanced Institute of Science and Technology); Teruki Toya (Kanazawa University); Masashi Unoki (JAIST)

Mon-P5.17 ⌚ 14:30–16:30 **Downstream Task Agnostic Speech Enhancement with Self-Supervised Representation Loss**

Hiroshi Sato; Ryo Masumura; Tsubasa Ochiai (NTT Corporation); Marc Delcroix; Takafumi Moriya (NTT); Takanori Ashihara (NTT Corp.); Kentaro Shinayama (NTT Corporation); Saki Mizuno (NTT Computer & Data Science Laboratories); Mana Ithori (NTT Corporation); Tomohiro Tanaka (NTT); Nobukatsu Hojo (NTT Corporation)

Mon-P5.18 ⌚ 14:30–16:30 **Perceptual Improvement of Deep Neural Network (DNN) Speech Coder Using Parametric and Non-parametric Density Models**

Seungmin Shin; Joon Byun; Youngcheol Park (Yonsei University); Jongmo Sung (ETRI); Seungkwon Beack (IEEE Broadcast Technology Society (BTS))

Mon-P5.19 ⌚ 14:30–16:30 **DeFT-AN RT: Real-time Multichannel Speech Enhancement using Dense Frequency-Time Attentive Network and Non-overlapping Synthesis Window**

Dongheon Lee; Dayun Choi; Jung-Woo Choi (KAIST)

Mon-P6 - Spoken Dialog Systems and Conversational Analysis 1

POSTER

📍 Forum Poster Area 2

📅 Monday 21 August 2023 ⌚ 14:30–16:30
Session chairs : Joakim Gustafson

Mon-P6.1 ⌚ 14:30–16:30 **FC-MTLF: A Fine- and Coarse-grained Multi-Task Learning Framework for Cross-Lingual Spoken Language Understanding**

Xuxin Cheng; Wanshi Xu; Ziyu Yao; Zhihong Zhu; Yaowei Li; Hongxiang Li; Yuexian Zou (Peking University)

Mon-P6.2 ⌚ 14:30–16:30 **C²A-SLU: Cross and Contrastive Attention for Improving ASR Robustness in Spoken Language Understanding**

Xuxin Cheng; Ziyu Yao; Zhihong Zhu; Yaowei Li; Hongxiang Li; Yuexian Zou (Peking University)

Mon-P6.3 ⌚ 14:30–16:30 **Tri-level Joint Natural Language Understanding for Multi-turn Conversational Datasets**

Henry Weld (University of Sydney); Sijia Hu (The University of Sydney); Siqiu Long (University of Sydney); Josiah Poon (The University of Sydney); Soyeon Han (University of Western Australia)

Mon-P6.4 ⌚ 14:30–16:30 **Semantic Enrichment Towards Efficient Speech Representations**

Gaëlle Laperrière (LIA - Avignon University); Ha Nguyen (LIA); Sahar Ghannay (LISN); Bassam Jabaian; Yannick Estève (LIA - Avignon University)

Mon-P6.5 ⌚ 14:30–16:30 **Tensor decomposition for minimization of E2E SLU model toward on-device processing**

Yosuke Kashiwagi (Sony); Siddhant Arora (Carnegie Mellon University); Hayato Futami (Sony Group Corporation); Jessica Huynh; Shih-Lun Wu; Yifan Peng; Brian Yan (Carnegie Mellon University); Emiru Tsunoo (Sony Group Corporation); Shinji Watanabe (Carnegie Mellon University)

Mon-P6.6 ⌚ 14:30–16:30 **DiffSLU: Knowledge Distillation Based Diffusion Model for Cross-Lingual Spoken Language Understanding**

Tianjun Mao (Fudan University); Chenghong Zhang (Fudan University)

Mon-P6.7 ⌚ 14:30–16:30 **Integrating Pre-trained ASR and LM to Perform Sequence**

Generation for Spoken Language Understanding

Siddhant Arora (Carnegie Mellon University); Hayato Futami (Sony Group Corporation); Yosuke Kashiwagi (Sony); Emiru Tsunoo (Sony Group Corporation); Brian Yan; Shinji Watanabe (Carnegie Mellon University)

Mon-P6.8 ⌚ 14:30–16:30 **Contrastive Learning Based ASR Robust Knowledge Selection For Spoken Dialogue System**

Zhiyuan Zhu; Yusheng Liao; Yu Wang; Yunfeng Guan (Shanghai Jiao Tong University)

Mon-P6.9 ⌚ 14:30–16:30 **Unsupervised Dialogue Topic Segmentation in Hyperdimensional Space**

Seongmin Park (ActionPower); Jinkyu Seo (Seoul National University); Jihwa Lee (ActionPower)

Mon-P6.10 ⌚ 14:30–16:30 **An Investigation of the Combination of Rehearsal and Knowledge Distillation in Continual Learning for Spoken Language Understanding**

Umberto Cappellazzo (University of Trento); Daniele Falavigna; Alessio Brutti (FBK)

Mon-P6.11 ⌚ 14:30–16:30 **Enhancing New Intent Discovery via Robust Neighbor-based Contrastive Learning**

Zhenhe Wu (beihang university); Xiaoguang Yu (JD AI Research); Meng Chen (JD AI); Liangqing Wu (JD AI Research); Jiahao Ji; Zhoujun Li (Beihang University)

Mon-P6.12 ⌚ 14:30–16:30 **Personalized Predictive ASR for Latency Reduction in Voice Assistants**

Andreas Schwarz (Amazon); Di He (Amazon Alexa); Maarten Van Segbroeck (Amazon); Mohammed Hethnawi; Ariya Rastrow (Amazon Alexa)

Mon-P6.13 ⌚ 14:30–16:30 **Compositional Generalization in Spoken Language Understanding**

Avik Ray (Amazon); Yilin Shen; Hongxia Jin (Samsung Research America)

Mon-P6.14 ⌚ 14:30–16:30 **Sampling bias in NLU models: Impact and Mitigation**

Zefei Li (Amazon Alexa); Anil Ramakrishna (Amazon); Anna Rumshisky; Andy Rosenbaum; Saleh Solta (Amazon Alexa); Rahul Gupta (Amazon)

Kyungmin Lee; Hyeontaek Lim (Samsung Electronics); Mun-Hwan Lee; Hong-Gee Kim (Seoul National University)

Mon-P6.15 🕒 14:30–16:30 **SIDER: Unified Query Rewriting for Steering, Intent Carryover, Disfluencies, Entity Carryover and Repair**

Jiarui Lu; Bo-Hsiang Tseng; Joel Ruben Antony Moniz; Site Li; Xueyun Zhu; Hong Yu; Murat Akbacak (Apple)

Mon-P7.3 🕒 14:30–16:30 **OOD-Speech: A Large Bengali Speech Recognition Dataset for Out-of-Distribution Benchmarking**

Fazle Rabbi Rakib (Bengali.AI); Souhardya Saha Dip (Shahjalal University of Science and Technology); Samiul Alam (Michigan State University); Nazia Tasnim (Shahjalal University of Science and Technology); Md. Istiak Hossain Shihab; Md. Nazmuddoha Ansary; Syed Mobassir Hossen; Marsia Haque Meghla; Mamunur Mamun (Bengali.AI); Farig Sadeque (Brac University); Sayma Sultana Chowdhury (SUST); Tahsin Reasat; Asif Sushmit (Bengali.AI); Ahmed Imtiaz Humayun (Rice University)

Mon-P6.16 🕒 14:30–16:30 **Emotion Awareness in Multi-utterance Turn for Improving Emotion Prediction in Multi-Speaker Conversation**

Xiaohan Shi (Nagoya University); Xingfeng Li (Hainan University); Tomoki Toda (Nagoya University)

Mon-P7.4 🕒 14:30–16:30 **ML-SUPERB: Multilingual Speech Universal PERFORMANCE Benchmark**

Jiatong Shi; Dan Berrebbi; William Chen (Carnegie Mellon University); En-Pei Hu; Wei-Ping Huang; Ho-Lam Chung (National Taiwan University); Xuankai Chang (Carnegie Mellon University); Shang-Wen Li (Meta); Abdelrahman Mohamed (Rembrand); Hung-yi Lee (National Taiwan University); Shinji Watanabe (Carnegie Mellon University)

Mon-P6.17 🕒 14:30–16:30 **WhiSLU: End-to-End Spoken Language Understanding with Whisper**

Minghan Wang (Huawei); Yinglu Li (Huawei Technologies Co., Ltd.); Jiaxin Guo (Huawei); Xiaosong Qiao (Huawei Translation Services Center); Zongyao Li; Hengchao Shang (HW-TSC); Daimeng Wei (Huawei Translation Services Center); Shimin Tao; Min Zhang; Hao Yang (Huawei)

Mon-P7 - Speech Recognition: Signal Processing, Acoustic Modeling, Robustness, Adaptation 2

POSTER 📍 Forum Poster Area 3

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs : Leda Sari

Mon-P7.1 🕒 14:30–16:30 **A More Accurate Internal Language Model Score Estimation for the Hybrid Autoregressive Transducer**

Kyungmin Lee (Samsung Electronics); Haeri Kim (Samsung Research); Sichen Jin (Samsung); Jinhwan Park (Samsung Research); Youngho Han (Samsung Electronics)

Mon-P7.5 🕒 14:30–16:30 **General-purpose Adversarial Training for Enhanced Automatic Speech Recognition Model Generalization**

Dohee Kim; Daeyeol Shim; Joon-Hyuk Chang (Hanyang University)

Mon-P7.6 🕒 14:30–16:30 **Joint Instance Reconstruction and Feature Subspace Alignment for Cross-Domain Speech Emotion Recognition**

Keke Zhao; Peng Song (Yantai University); Shaokai Li (Yantai University); Wenming Zheng (Southeast University)

Mon-P7.2 🕒 14:30–16:30 **Attention Gate Between Capsules in Fully Capsule-Network Speech Recognition**

Mon-P7.7 🕒 14:30–16:30 **Knowledge Distillation for Neural Transducer-based Target-Speaker ASR: Exploiting Parallel Mixture/Single-Talker Speech Data**

Takafumi Moriya; Hiroshi Sato; Tsubasa Ochiai (NTT Corporation); Marc Delcroix (NTT); Takanori Ashihara

(NTT Corp.); Kohei Matsuura; Tomohiro Tanaka (NTT); Ryo Masumura; Atsunori Ogawa (NTT Corporation); Taichi Asami (NTT)

Mon-P7.8 ⌚ 14:30–16:30 **Random Utterance Concatenation Based Data Augmentation for Improving Short-video Speech Recognition**

Yist Y. Lin (ByteDance AI-Lab); Tao Han (TikTok Pte. Ltd.); Haihua Xu; Van Tung Pham; Yerbolat Khassanov; Tze Yuang Chong; Yi He; Lu Lu; Zejun Ma (Bytedance)

Mon-P7.9 ⌚ 14:30–16:30 **Adapter Incremental Continual Learning of Efficient Audio Spectrogram Transformers**

Nithish Muthuchamy Selvaraj; Xiaobao Guo; Adams Kong (Nanyang Technological University); Bingquan Shen (DSO); Alex Kot (Nanyang Technological University)

Mon-P7.10 ⌚ 14:30–16:30 **Rethinking Speech Recognition with A Multimodal Perspective via Acoustic and Semantic Cooperative Decoding**

Tian-Hao Zhang; Hai-Bo Qin; Zhi-Hao Lai (University of Science and Technology Beijing); Song-Lu Chen (University of Science and Technology); Qi Liu (University of Science and Technology Beijing); Feng Chen (EEasy Technology Co. LTD); Xinyuan Qian (USTB); Xu-Cheng Yin (University of Science and Technology Beijing)

Mon-P7.11 ⌚ 14:30–16:30 **Improving Code-Switching and Name Entity Recognition in ASR with Speech Editing based Data Augmentation**

Zheng Liang; Zheshu Song; Ziyang Ma; Chenpeng Du; Kai Yu (Shanghai Jiao Tong University); Xie Chen (Shanghai Jiaotong University)

Mon-P7.12 ⌚ 14:30–16:30 **Bypass Temporal Classification: Weakly Supervised Automatic Speech Recognition with Imperfect Transcripts**

Dongji Gao; Matthew Wiesner (Johns Hopkins University); Hainan Xu (NVIDIA); Leibny Paola Garcia; Daniel Povey; Sanjeev Khudanpur (Johns Hopkins University)

Mon-P7.13 ⌚ 14:30–16:30 **DCCRN-KWS: An Audio Bias Based Model for Noise Robust Small-Footprint Keyword Spotting**

Shubo Lv (Shaanxi Provincial Key Laboratory of Speech and Image Information Processing, School of Computer Science, Northwestern Polytechnical University); Xiong Wang (Tencent); Sining Sun (Duxiaoman); Long Ma (Tencent Technology Co.); Lei Xie (NWPU)

Mon-P7.14 ⌚ 14:30–16:30 **OTF: Optimal Transport based Fusion of Supervised and Self-Supervised Learning Models for Automatic Speech Recognition**

Li Fu (JD); Siqi Li; Qingtao Li; Fangzhu Li; Liping Deng (JD AI Research); Lu Fan (JD); Meng Chen (JD AI); Youzheng Wu (CAS); Xiaodong He (JDT)

Mon-P7.15 ⌚ 14:30–16:30 **Approximate Nearest Neighbour Phrase Mining for Contextual Speech Recognition**

Maurits Bleeker (University of Amsterdam); Pawel Swietojanski; Stefan Braun; Xiaodan Zhuang (Apple)

Mon-P7.16 ⌚ 14:30–16:30 **Rehearsal-Free Online Continual Learning for Automatic Speech Recognition**

Steven Vander Eeck (KU Leuven); Hugo Van hamme (KU LEUVEN)

Mon-P8 - Speech Recognition: Technologies and Systems for New Applications 2

POSTER 📍 Forum Poster Area 4

📅 Monday 21 August 2023 ⌚ 14:30–16:30
Session chairs : Natalie Camelin

Mon-P8.1 ⌚ 14:30–16:30 **Phonetic and Prosody-aware Self-supervised Learning Approach for Non-native Fluency Scoring**

Kaiqi Fu; Shaojun Gao; Shuju Shi; Xiaohai Tian; Wei Li; Zejun Ma (Bytedance)

Mon-P8.2 ⌚ 14:30–16:30 **Disentangling the Contribution of Non-native Speech in Automated Pronunciation Assessment**

Shuju Shi; Kaiqi Fu; Yiwei Gu; Xiaohai Tian; Shaojun Gao; Wei Li; Zejun Ma (Bytedance)

Mon-P8.3 🕒 14:30–16:30 **A Joint Model for Pronunciation Assessment and Mispronunciation Detection and Diagnosis with Multi-task Learning**

Hyungshin Ryu; Sunhee Kim; Minhwa Chung (Seoul National University)

Mon-P8.4 🕒 14:30–16:30 **Assessing Intelligibility in Non-native Speech: Comparing Measures Obtained at Different Levels**

Xing Wei; Roeland van Hout (Radboud University); Catia Cucchiaroni (Radboud Universiteit Nijmegen); Danielle Reuvekamp (Radboud University); Helmer Strik (Radboud Universiteit Nijmegen)

Mon-P8.5 🕒 14:30–16:30 **End-to-End Word-Level Pronunciation Assessment with MASK Pre-training**

Yukang Liang (University of Science and Technology of China); Kaitao Song; Shaoguang Mao; Huiqiang Jiang; Luna Qiu (Microsoft Research Asia); Yuqing Yang (Microsoft Research); Dongsheng Li (Microsoft Research Asia); Linli Xu (University of Science and Technology of China); Lili Qiu (Microsoft Research Asia)

Mon-P8.6 🕒 14:30–16:30 **A Hierarchical Context-aware Modeling Approach for Multi-aspect and Multi-granular Pronunciation Assessment**

Fu-An Chao; Tien-Hong Lo; Tzu-I Wu; Yao-Ting Sung; Berlin Chen (National Taiwan Normal University)

Mon-P8.7 🕒 14:30–16:30 **Automatic Prediction of Language Learners' Listenability Using Speech and Text Features Extracted from Listening Drills**

Yingxiang Gao; Jaehyun Choi; Nobuaki Minematsu (The University of Tokyo); Noriko Nakanishi (Kobe Gakuin University); Daisuke Saito (The University of Tokyo)

Mon-P8.8 🕒 14:30–16:30 **Assessment of Non-Native Speech Intelligibility using Wav2vec2-based Mispronunciation Detection and Multi-level Goodness of Pronunciation Transformer**

Ram C. M. C. Shekar; Mu Yang (University of Texas at Dallas); Kevin Hirschi (Northern Arizona University); Stephen Looney (Pennsylvania State University); Okim

Kang (Northern Arizona University); John H. L. Hansen (University of Texas at Dallas)

Mon-P8.9 🕒 14:30–16:30 **Adapting an Un-adaptable ASR System**

Rao Ma (University of Cambridge); Mengjie Qian (Cambridge University); Mark J. F. Gales; Kate M. Knill (University of Cambridge)

Mon-P8.10 🕒 14:30–16:30 **Addressing Cold Start Problem for End-to-end Automatic Speech Scoring**

Jungbae Park (Riiid Inc, KAIST); Seungtaek Choi (Riiid)

Mon-P8.11 🕒 14:30–16:30 **Improving grapheme-to-phoneme conversion by learning pronunciations from speech recordings**

Sam Ribeiro (Amazon Alexa); Giulia Comini; Jaime Lorenzo-Trueba (Amazon)

Mon-P8.12 🕒 14:30–16:30 **Orthography-based Pronunciation Scoring for Better CAPT Feedback**

Caitlin Richter; Ragnar Pálsson (Reykjavik University); Luke O'Brien (Tiro); Kolbrún Friðriksdóttir (University of Iceland); Branislav Bédi (Árni Magnússon Institute); Eydís Huld Magnúsdóttir (Tiro); Jón Guðnason (Reykjavik University)

Mon-P8.13 🕒 14:30–16:30 **Zero-Shot Automatic Pronunciation Assessment**

Hongfu Liu; Mingqian Shi; Ye Wang (National University of Singapore)

Mon-P8.14 🕒 14:30–16:30 **Mispronunciation detection and diagnosis model for tonal language, applied to Vietnamese**

Tuong Tu Huu; Viet Thanh Pham; Thi Thu Trang Nguyen (Hanoi University of Science and Technology); Thai Lai Dao (Vietnam Psycho-Pedagogical Association)

Mon-SaT - Show and Tell: Health applications and emotion recognition

POSTER 📍 Show and Tell Area

📅 Monday 21 August 2023 🕒 14:30–16:30
Session chairs :

Mon-SaT.1 ⌚ 14:30–16:30 **A Personalised Speech Communication Application for Dysarthric Speakers**

Matthew Gibson (Voiceitt); Ievgen Karaulov (Uspeech); Oleksii Zhelo; Filip Jurcicek (Voiceitt)

Mon-SaT.2 ⌚ 14:30–16:30 **Video Multimodal Emotion Recognition System for Real World Applications**

Sun-Kyung Lee (KAIST); Jong-Hwan Kim (KAIST)

Mon-SaT.3 ⌚ 14:30–16:30 **Promoting Mental Self-Disclosure in a Spoken Dialogue System**

Mahdin Rohmatillah (National Yang Ming Chiao Tung University); Bobbi Aditya (EECS International Graduate Program); Li-Jen Yang (National Yang Ming Chiao Tung University); Bryan Gautama Ngo (EECS International Graduate Program); Willianto Sulaiman; Jen-Tzung Chien (National Yang Ming Chiao Tung University)

Mon-SaT.4 ⌚ 14:30–16:30 **"Select language, modality or put on a mask!" Experiments with Multimodal Emotion Recognition**

Paweł Bujnowski; Bartłomiej Kuźma; Bartłomiej Paziewski; Jacek Rutkowski; Joanna Marhula; Zuzanna Bordzicka (Samsung Research Poland); Piotr Andrzejewicz (Samsung Research Poland & Warsaw University of Technology)

Mon-SaT.5 ⌚ 14:30–16:30 **My Vowels Matter: Formant Automation Tools for Diverse Child Speech**

Hannah Valentine (New York University); Joel MacAuslan (STAR Corp); Maria Grigos (New York University); Marisha Speights (Northwestern University)

Mon-SaT.6 ⌚ 14:30–16:30 **NEMA: An Ecologically Valid Tool for Assessing Hearing Devices, Advanced Algorithms, and Communication in Diverse Listening Environments**

Nicky Chong-White; Arun Sebastian; Jorge Mejia (National Acoustic Laboratories)

Mon-SaT.7 ⌚ 14:30–16:30 **When Words Speak Just as Loudly as Actions: Virtual Agent Based Remote Health Assessment Integrating What Patients Say with What They Do**

Vikram Ramanarayanan (University of California, San Francisco & Modality.AI); David Pautler; Lakshmi Arbatti; Abhishek Hosamath; Michael Neumann; Hardik Kothare (Modality.AI); Oliver Roesler (Modality.AI Inc.); Jackson Liscombe; Andrew Cornish; Doug Habberstad (Modality.ai); Vanessa Richter (University of Stuttgart & Modality.AI); David Fox; David Suendermann-Oeft; Ira Shoulson (Modality.AI)

Mon-SaT.8 ⌚ 14:30–16:30 **Stuttering Detection Application**

Kowshik Siva Sai Motepalli (IIT Hyderabad); Vamshiraghushimha Narasinga (International Institute Of Information Technology Hyderabad); Harsha Pathuri; Hina Khan (IIT); Sangeetha Mahesh; Ajish K. Abraham (All India Institute of Speech and Hearing); Anil Kumar Vuppala (International Institute of Information Technology Hyderabad)

Mon-SaT.9 ⌚ 14:30–16:30 **Providing Interpretable Insights for Neurological Speech and Cognitive Disorders from Interactive Serious Games**

Mario Zusag (myReha GmbH); Laurin Wagner (myReha GmbH)

Mon-SaT.10 ⌚ 14:30–16:30 **Automated Neural Nursing Assistant (ANNA): An Over-The-Phone System for Cognitive Monitoring**

Jacob Solinsky; Raymond Finzel; Martin Michalowski; Serguei Pakhomov (University of Minnesota)

Mon-SaT.11 ⌚ 14:30–16:30 **5G-IoT Cloud based Demonstration of Real-Time Audio-Visual Speech Enhancement for Multimodal Hearing-aids**

Ankit Gupta (Heriot-Watt University); Abhijeet Bishnu (University of Edinburgh); Mandar Gogate; Kia Dashtipour (Edinburgh Napier University); Tughrul Arslan (University of Edinburgh); Ahsan Adeel (University of Wolverhampton); Amir Hussain (Edinburgh Napier University); Tharmalingam Ratnarajah (University of Edinburgh); Mathini Sellathurai (Heriot-Watt University)

Mon-SaT.12 ⌚ 14:30–16:30 **Towards Two-point Neuron-inspired Energy-efficient Multimodal Open Master Hearing Aid**

Mohsin Raza; Adewale Adetomi; Khubaib Ahmed (University of Wolverhampton); Amir Hussain (Edinburgh)

Napier University); Tughrul Arslan (University of Edinburgh); Ahsan Adeel (University of Wolverhampton)

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Keynote 2 - Virginia Dignum

Beyond the AI hype: Balancing Innovation and Social Responsibility

📍 **The Auditorium**
📅 Tuesday 22 August 2023 ⌚ 08:30–09:30

Tue-S1 - Biosignal-enabled Spoken Communication

SPECIAL 📍 **Liffey Meeting Room 2**

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Siqi Cai, Kevin Scheck

Tue-S1.WEL ⌚ 10:00–10:12 **Welcome and overview**

Tue-S1.PP ⌚ 10:12–10:30 **Poster pitches**

Tue-S1.1 ⌚ 10:30–12:00 **Obstructive Sleep Apnea Detection using Pre-trained Speech Representations**

Kaibo Zhang (Tsinghua University); Lili Cao; Yiming Ding; Yanru Li (Capital Medical University); Chao Zhang; Ji Wu (Tsinghua University); Demin Han (Capital Medical University)

Tue-S1.2 ⌚ 10:30–12:00 **EEG-based Auditory Attention Detection with Spatiotemporal Graph and Graph Convolutional Network**

Ruicong Wang; Siqi Cai (National University of Singapore); Haizhou Li (The Chinese University of Hong Kong, Shenzhen)

Tue-S1.3 ⌚ 10:30–12:00 **Silent Speech Recognition with Articulator Positions Estimated from Tongue Ultrasound and Lip Video**

Rachel Beeson (University of Edinburgh); Korin Richmond (University of Edinburgh)

Tue-S1.4 ⌚ 10:30–12:00 **Auditory Attention Detection in Real-Life Scenarios Using Common Spatial Patterns from EEG**

Kai Yang (Tianjin University); Zhuang Xie (Henan University); Di Zhou (Japan Advanced Institute of Science and Technology); Longbiao Wang; Gaoyan Zhang (Tianjin University)

Tue-S1.5 ⌚ 10:30–12:00 **Diff-E: Diffusion-based Learning for Decoding Imagined Speech EEG**

Soowon Kim; Young-Eun Lee; Seo-Hyun Lee; Seong-Whan Lee (Korea University)

Tue-S1.6 ⌚ 10:30–12:00 **Towards Ultrasound Tongue Image prediction from EEG during speech production**

Tamás Gábor Csapó; Frigyes Viktor Arthur (Budapest University of Technology and Economics); Péter Nagy; Ádám Boncz (Research Centre for Natural Sciences, Budapest)

Tue-S1.7 ⌚ 10:30–12:00 **Adaptation of Tongue Ultrasound-Based Silent Speech Interfaces Using Spatial Transformer Networks**

László Tóth; Amin Honarmandi Shandiz (University of Szeged); Gábor Gosztolya (MTA-SZTE Research Group on AI); Tamás Gábor Csapó (Budapest University of Technology and Economics)

Tue-S1.8 ⌚ 10:30–12:00 **STE-GAN: Speech-to-Electromyography Signal Conversion using Generative Adversarial Networks**

Kevin Scheck (University of Bremen); Tanja Schultz (University of Bremen)

Tue-S1.9 ⌚ 10:30–12:00 **Spanish Phone Confusion Analysis for EMG-Based Silent Speech Interfaces**

Inge Salomons; Eder del Blanco (University of the Basque Country); Eva Navas (University of the Basque Country (UPV/EHU)); Inma Hernández (University of the Basque Country)

Tue-S1.10 ⌚ 10:30–12:00 **Hybrid Silent Speech Interface Through Fusion of Electroencephalography and Electromyography**

Huiyan Li; Mingyi Wang; Han Gao; Shuo Zhao; Guang Li;
You Wang (Zhejiang University)

Tue-S2 - DiGo - Dialog for Good: Speech and Language Technology for Social Good

SPECIAL:ORAL 📍 EcoCem Room

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Emer Gilmartin, David Traum

Tue-S2.1 ⌚ 10:00–10:20 **A Multimodal Investigation of Speech, Text, Cognitive and Facial Video Features for Characterizing Depression With and Without Medication**

Michael Neumann; Hardik Kothare; Doug Habberstad (Modality.ai); Vikram Ramanarayanan (University of California, San Francisco & Modality.AI)

Tue-S2.2 ⌚ 10:20–10:40 **Understanding Disrupted Sentences Using Underspecified Abstract Meaning Representation**

Angus Addlesee (Heriot-Watt University); Marco Damonte (Amazon Alexa)

Tue-S2.3 ⌚ 10:40–11:00 **Developing Speech Processing Pipelines for Police Accountability**

Anjalie Field; Prateek Verma; Nay San; Jennifer L. Eberhardt; Dan Jurafsky (Stanford University)

Tue-S2.4 ⌚ 11:00–11:20 **Prosody-controllable Gender-ambiguous Speech Synthesis: A Tool for Investigating Implicit Bias in Speech Perception**

Éva Székely; Joakim Gustafson (KTH Royal Institute of Technology); Ilaria Torre (KTH)

Tue-S2.5 ⌚ 11:20–11:40 **Affective attributes of French caregivers' professional speech**

Jean-Luc Rouas (LaBRI CNRS Univ. Bordeaux); Yaru Wu (Université de Caen - CRISCO/UR4255; LPP/CNRS; LISN/CNRS); Takaaki Shochi (CNRS)

Tue-S2.SUM ⌚ 11:40–12:00 **Summary**

Tue-O1 - Paralinguistics 1

ORAL 📍 The Auditorium

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Enrico Zovato, Carlos Busso

Tue-O1.1 ⌚ 10:00–10:20 **Detection of Emotional Hotspots in Meetings Using a Cross-Corpus Approach**

Georg Stemmer (Intel Corp.); Paulo Lopez Meyer (Intel); Juan Del Hoyo Ontiveros (Intel Corp.); Jose Lopez (Intel Labs); Hector A. Cordourier (Intel); Tobias Bocklet (Technische Hochschule Nürnberg Georg Simon Ohm)

Tue-O1.2 ⌚ 10:20–10:40 **Detection of Laughter and Screaming Using the Attention and CTC Models**

Takuto Matsuda (Chiba Institute of Technology); Yoshiko Arimoto (Chiba Institute of Technology)

Tue-O1.3 ⌚ 10:40–11:00 **Capturing Formality in Speech Across Domains and Languages**

Debasmita Bhattacharya (Columbia University); Jie Chi (University of Edinburgh); Julia Hirschberg (Columbia University); Peter Bell (University of Edinburgh)

Tue-O1.4 ⌚ 11:00–11:20 **Towards Robust Family-Infant Audio Analysis Based on Unsupervised Pretraining of Wav2vec 2.0 on Large-Scale Unlabeled Family Audio**

Jialu Li (UIUC); Mark Hasegawa-Johnson; Nancy L. McElwain (University of Illinois)

Tue-O1.5 ⌚ 11:20–11:40 **Cues to next-speaker projection in conversational Swedish: Evidence from reaction times**

Kathrin Feindt (University Kiel); Martina Rossi (Kiel University); Ghazaleh Esfandiari-Baiat; Axel G. Ekström (KTH Royal Institute of Technology); Margaret Zellers (Kiel University)

Tue-O1.6 ⌚ 11:40–12:00 **Multiple Instance Learning for Inference of Child Attachment From Paralinguistic Aspects of Speech**

Areej Buker (Imam Abdulrahman Bin Faisal University); Huda Alsofyani; Alessandro Vinciarelli (University of Glasgow)

Tue-O2 - Speech Enhancement and Denoising

ORAL 📍 Wicklow Hall 2

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Timo Gerkmann, Anurag Kumar

Tue-O2.1 ⌚ 10:00–10:20 Real-Time Joint Personalized Speech Enhancement and Acoustic Echo Cancellation

Sefik Emre Eskimez; Takuya Yoshioka; Alex Ju; Min Tang; Tanel Pärnamaa; Huaming Wang (Microsoft)

Tue-O2.2 ⌚ 10:20–10:40 TaylorBeamixer: Learning Taylor-Inspired All-Neural Multi-Channel Speech Enhancement from Beam-Space Dictionary Perspective

Andong Li; Weixin Meng (Institute of Acoustics, Chinese Academy of Sciences); Guochen Yu (Communication University of China); Wenzhe Liu (Tencent Ethereal Audio Lab, Tencent Corporation); Xiaodong Li (Chinese Academy of Sciences); Chengshi Zheng (Institute of Acoustics, Chinese Academy of Sciences)

Tue-O2.3 ⌚ 10:40–11:00 MFT-CRN: Multi-scale Fourier Transform for Monaural Speech Enhancement

Yulong Wang (Inner Mongolia University); Xueliang Zhang (Inner Mongolia University)

Tue-O2.4 ⌚ 11:00–11:20 Variance-Preserving-Based Interpolation Diffusion Models for Speech Enhancement

Zilu Guo (University of China Science and Technology); Jun Du (University of Science and Technology of China); Chin-Hui Lee (Georgia Institute of Technology); Yu Gao (Midea); Wenbin Zhang (Midea Group)

Tue-O2.5 ⌚ 11:20–11:40 Multi-input Multi-output Complex Spectral Mapping for Speaker Separation

Hassan Taherian (The Ohio State University); Ashutosh Pandey (META); Daniel Wong (Meta Platforms Inc.); Buye Xu (Meta Reality Labs Research); DeLiang Wang (Ohio State University)

Tue-O2.6 ⌚ 11:40–12:00 Short-term Extrapolation of Speech Signals Using Recursive Neural Networks in the STFT Domain

Maurice Oberhag; Daniel Neudek; Rainer Martin (Institute of Communication Acoustics, Ruhr-University Bochum); Tobias Rosenkranz (WS Audiology, Research and Development); Henning Puder (WS Audiology)

Tue-O3 - Speech Synthesis: Evaluation

ORAL 📍 Liffey Hall 2

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Esther Klabbers, Jens Edlund

Tue-O3.1 ⌚ 10:00–10:20 Listener sensitivity to deviating obstruents in WaveNet

Ayushi Pandey (Trinity College Dublin); Jens Edlund (KTH Royal Institute of Technology); Sébastien Le Mauguer (ADAPTcentre / Trinity College Dublin); Naomi Harte (Trinity College Dublin)

Tue-O3.2 ⌚ 10:20–10:40 How Generative Spoken Language Modeling Encodes Noisy Speech: Investigation from Phonetics to Syntactics

Joonyong Park; Shinnosuke Takamichi; Tomohiko Nakamura; Kentaro Seki; Detai Xin; Hiroshi Saruwatari (The University of Tokyo)

Tue-O3.3 ⌚ 10:40–11:00 MOS vs. AB: Evaluating Text-to-Speech Systems Reliably Using Clustered Standard Errors

Joshua Camp; Tom Kenter; Lev Finkelstein; Rob Clark (Google)

Tue-O3.4 ⌚ 11:00–11:20 RAMP: Retrieval-Augmented MOS Prediction via Confidence-based Dynamic Weighting

Hui Wang (Nankai University); Shiwan Zhao (Independent Researcher); Xiguang Zheng (Kuaishou Technology); Yong Qin (Nankai University)

Tue-O3.5 ⌚ 11:20–11:40 Can Better Perception Become a Disadvantage? Synthetic Speech Perception in Congenitally Blind Users

Gerda Ana Melnik-Leroy (Institute of Data Science and Digital Technologies, Vilnius University); Gediminas Navickas (Vilnius University)

Tue-O3.6 🕒 11:40–12:00 **Investigating Range-Equalizing Bias in Mean Opinion Score Ratings of Synthesized Speech**

Erica Cooper (National Institute of Informatics); Junichi Yamagishi (National Institute of Informatics)

Tue-O4 - Neural-based Speech and Acoustic Analysis

ORAL 📍 Liffey Hall 1

📅 Tuesday 22 August 2023 🕒 10:00–12:00
Session chairs : Dimitri Palaz, Andrew Rosenberg

Tue-O4.1 🕒 10:00–10:20 **Can Self-Supervised Neural Representations Pre-Trained on Human Speech distinguish Animal Callers?**

Eklavya Sarkar (Idiap Research Institute); Mathew Magimai.-Doss (Idiap Research Institute)

Tue-O4.2 🕒 10:20–10:40 **Discovering COVID-19 Coughing and Breathing Patterns from Unlabeled Data Using Contrastive Learning with Varying Pre-Training Domains**

Jinjin Cai; Sudip Vhaduri (Purdue University); Xiao Luo (IUPUI)

Tue-O4.3 🕒 10:40–11:00 **Background-aware Modeling for Weakly Supervised Sound Event Detection**

Yifei Xin; Dongchao Yang; Yuexian Zou (Peking University)

Tue-O4.4 🕒 11:00–11:20 **How to (Virtually) Train Your Speaker Localizer**

Prerak Srivastava (INRIA NANCY); Antoine Deleforge (INRIA); Archontis Politis (Tampere University); Emmanuel Vincent (Inria)

Tue-O4.5 🕒 11:20–11:40 **MMER: Multimodal Multi-task Learning for Speech Emotion Recognition**

Sreyan Ghosh; Utkarsh Tyagi (University of Maryland, College Park); S Ramaneswaran (NVIDIA); Harshvardhan Srivastava (Oracle); Dinesh Manocha (University of Maryland at College Park)

Tue-O4.6 🕒 11:40–12:00 **A Multi-Task Learning Framework for Sound Event Detection using High-level Acoustic Characteristics of Sounds**

Tanmay Khandelwal (ForteMedia); Rohan Kumar Das (Fortemedia)

Tue-O5 - End-to-end Spoken Dialog Systems

ORAL 📍 Wicklow Hall 1

📅 Tuesday 22 August 2023 🕒 10:00–12:00
Session chairs : Dilek Hakkani-Tür, Philip N. Garner

Tue-O5.1 🕒 10:00–10:20 **Can ChatGPT Detect Intent? Evaluating Large Language Models for Spoken Language Understanding**

Mutian He (Idiap Research Institute); Philip N. Garner (Idiap Research Institute)

Tue-O5.2 🕒 10:20–10:40 **Improving End-to-End SLU performance with Prosodic Attention and Distillation**

Shangeth Rajaa (skit.ai)

Tue-O5.3 🕒 10:40–11:00 **Modality Confidence Aware Training for Robust End-to-End Spoken Language Understanding**

Suyoun Kim; Akshat Shrivastava; Duc Le; Ju Lin; Ozlem Kalinli; Michael L. Seltzer (Meta)

Tue-O5.4 🕒 11:00–11:20 **Cross-Modal Semantic Alignment before Fusion for Two-Pass End-to-End Spoken Language Understanding**

Lingyan Huang; Tao Li; Haodong Zhou; Qingyang Hong; Lin Li (Xiamen University)

Tue-O5.5 🕒 11:20–11:40 **ConvKT: Conversation-Level Knowledge Transfer for Context Aware**

End-to-End Spoken Language Understanding

Vishal Sunder (The Ohio State University); Eric Fosler-Lussier (Ohio State); Samuel Thomas (IBM Research AI); Hong-Kwang J Kuo (IBM); Brian Kingsbury (IBM Research)

Minkyu Jung (Channel Corporation); Ohhyeok Kwon (Naver Cloud); Seunghyun Seo; Soonshin Seo (NAVER Corporation)

Tue-O5.6 11:40–12:00 GhostT5: Generate More Features with Cheap Operations to Improve Textless Spoken Question Answering

Xuxin Cheng; Zhihong Zhu; Ziyu Yao; Hongxiang Li; Yaowei Li; Yuexian Zou (Peking University)

Tue-P1.5 10:00–12:00 Improving Joint Speech-Text Representations Without Alignment

Cal Peyser (Google Inc.); Zhong Meng (Google LLC); Rohit Prabhavalkar (Google); Andrew Rosenberg (Google LLC); Tara Sainath (Google); Michael Picheny; Kyunghyun Cho (New York University); Ke Hu (Google)

Tue-P1 - Speech Recognition: Architecture, Search, and Linguistic Components 2

POSTER Forum Poster Area 1

Tuesday 22 August 2023 10:00–12:00
Session chairs : Peter Bell

Tue-P1.1 10:00–12:00 Text-Only Domain Adaptation for End-to-End Speech Recognition through Down-Sampling Acoustic Representation

Jiaxu Zhu; Weinan Tong; Yaoxun Xu; Changhe Song; Zhiyong Wu (Tsinghua University); Zhao You (Tencent AI Lab); Dan Su; Dong Yu (Tencent); Helen Meng (The Chinese University of Hong Kong)

Tue-P1.6 10:00–12:00 Leveraging Cross-Utterance Context For ASR Decoding

Robert Flynn (Sheffield University); Anton Ragni (University of Sheffield)

Tue-P1.7 10:00–12:00 Knowledge Transfer from Pre-trained Language Models to Cif-based Speech Recognizers via Hierarchical Distillation

Minglun Han; Feilong Chen (Institute of Automation, Chinese Academy of Sciences); Jing Shi (Institute of Automation Chinese Academy of Sciences); Shuang Xu (casia); Bo Xu (Institute of Automation, Chinese Academy of Sciences)

Tue-P1.2 10:00–12:00 Knowledge Distillation Approach for Efficient Internal Language Model Estimation

Zhipeng Chen; Haihua Xu; Yerbolat Khassanov; Yi He; Lu Lu; Zejun Ma (Bytedance); Ji Wu (Tsinghua University)

Tue-P1.8 10:00–12:00 Integration of Frame- and Label-synchronous Beam Search for Streaming Encoder-decoder Speech Recognition

Emiru Tsunoo; Hayato Futami (Sony Group Corporation); Yosuke Kashiwagi (Sony); Siddhant Arora; Shinji Watanabe (Carnegie Mellon University)

Tue-P1.3 10:00–12:00 Language Model Personalization for Improved Touchscreen Typing

Jiban Adhikary (Michigan Technological University); Keith Vertanen (Michigan Technological University)

Tue-P1.9 10:00–12:00 A Neural Time Alignment Module for End-to-End Automatic Speech Recognition

Dongcheng Jiang (University of Cambridge); Chao Zhang (Tsinghua University); Philip C. Woodland (Machine Intelligence Laboratory, Cambridge University Department of Engineering)

Tue-P1.4 10:00–12:00 Blank Collapse: Compressing CTC Emission for the Faster Decoding

Tue-P1.10 10:00–12:00 Accelerating Transducers through Adjacent Token Merging

Yang Li (University of Cambridge); Yu Wu (Microsoft Research Asia); Jinyu Li (Microsoft); Shujie Liu (Microsoft Research Asia)

Tue-P1.11 ⌚ 10:00–12:00 **Language-Universal Phonetic Representation in Multilingual Speech Pretraining for Low-Resource Speech Recognition**

Siyuan Feng (ByteDance Inc); Ming Tu (ByteDance AI Lab); Rui Xia (ByteDance Inc); Chuanzeng Huang (Speech, Audio and Music Intelligence (SAMI) group, ByteDance); Yuxuan Wang (ByteDance AI Lab)

Tue-P1.12 ⌚ 10:00–12:00 **Language-Routing Mixture of Experts for Multilingual and Code-Switching Speech Recognition**

Wenxuan Wang; Guodong Ma; Yuke Li; Binbin Du (NetEase Yidun AI Lab)

Tue-P1.13 ⌚ 10:00–12:00 **Embedding Articulatory Constraints for Low-resource Speech Recognition Based on Large Pre-trained Model**

Jaeyoung Lee; Masato Mimura; Tatsuya Kawahara (Kyoto University)

Tue-P1.14 ⌚ 10:00–12:00 **Exploration of Efficient End-to-End ASR using Discretized Input from Self-Supervised Learning**

Xuankai Chang; Brian Yan (Carnegie Mellon University); Yuya Fujita; Takashi Maekaku (Yahoo Japan Corporation); Shinji Watanabe (Carnegie Mellon University)

Tue-P1.15 ⌚ 10:00–12:00 **SpellMapper: A non-autoregressive neural spellchecker for ASR customization with candidate retrieval based on n-gram mappings**

Alexandra Antonova; Evelina Bakhturina; Boris Ginsburg (NVIDIA)

Tue-P1.16 ⌚ 10:00–12:00 **Text Injection for Capitalization and Turn-Taking Prediction in Speech Models**

Shaan Bijwadia; Shuo-Yiin Chang; Weiran Wang (Google); Zhong Meng (Google LLC); Hao Zhang (Google)

Tue-P1.17 ⌚ 10:00–12:00 **Confidence-based Ensembles of End-to-End Speech Recognition Models**

Igor Gitman; Vitaly Lavrukhin (NVIDIA); Aleksandr Laptev (NVIDIA, ITMO University); Boris Ginsburg (NVIDIA)

Tue-P1.18 ⌚ 10:00–12:00 **Unsupervised Code-switched Text Generation from Parallel Text**

Jie Chi (University of Edinburgh); Brian Lu; Jason Eisner (Johns Hopkins University); Peter Bell (University of Edinburgh); Preethi Jyothi (Indian Institute of Technology Bombay); Ahmed M. Ali (Qatar Computing Research Institute, HBKU)

Tue-P1.19 ⌚ 10:00–12:00 **A Binary Keyword Spotting System with Error-Diffusion Based Feature Binarization**

Dingyi Wang (Institute of Microelectronics of the Chinese Academy of Sciences); Mengjie Luo; Lin Li (Chinese Academy of Sciences); Xiaoqin Wang (Institute of Microelectronics of the Chinese Academy of Sciences); Shushan Qiao; Yumei Zhou (Chinese Academy of Sciences)

Tue-P1.20 ⌚ 10:00–12:00 **Language-universal Phonetic Encoder for Low-resource Speech Recognition**

Siyuan Feng (ByteDance Inc); Ming Tu (ByteDance AI Lab); Rui Xia (ByteDance Inc); Chuanzeng Huang (Speech, Audio and Music Intelligence (SAMI) group, ByteDance); Yuxuan Wang (ByteDance AI Lab)

Tue-P1.21 ⌚ 10:00–12:00 **A Lexical-aware Non-autoregressive Transformer-based ASR Model**

Chong-En Lin (National Taiwan University of Science and Technology); Kuan-Yu Chen (National Taiwan University of Science and Technology)

Tue-P1.22 ⌚ 10:00–12:00 **Improving Under-Resourced Code-Switched Speech Recognition: Large Pre-trained Models or Architectural Interventions**

Joshua Jansen van Vuren (Stellenbosch University); Thomas Niesler (University of Stellenbosch)

Tue-P2 - Speech Recognition: Signal Processing, Acoustic Modeling, Robustness, Adaptation 3

POSTER

📍 Forum Poster Area 2

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Mengjie Qian

Tue-P2.1 ⌚ 10:00–12:00 **ASR data augmentation in low-resource settings using cross-lingual multi-speaker TTS and cross-lingual voice conversion**

Edresson Casanova (Coqui); Christopher Shulby (QuintoAndar); Alexander Korolev (Darmstadt University of Applied Sciences); Arnaldo Candido Junior (São Paulo State University); Anderson da Silva Soares (Federal University of Goiás); Sandra Aluísio (USP - University of São Paulo); Moacir Antonelli Ponti (Universidade de São Paulo (ICMC-USP))

Tue-P2.2 ⌚ 10:00–12:00 **Personality-aware Training based Speaker Adaptation for End-to-end Speech Recognition**

Yue Gu (Harbin Institute of Technology); Zhihao Du; Shiliang Zhang (Alibaba Group); Qian Chen (Speech Lab, DAMO Academy, Alibaba Group); Jiqing Han (Harbin Institute of Technology)

Tue-P2.3 ⌚ 10:00–12:00 **Target Vocabulary Recognition Based on Multi-Task Learning with Decomposed Teacher Sequences**

Aoi Ito (Hosei University); Tatsuya Komatsu; Yusuke Fujita (LINE Corporation); Yusuke Kida (WORKS MOBILE Japan Corp.)

Tue-P2.4 ⌚ 10:00–12:00 **Wave to Syntax: Probing spoken language models for syntax**

Gaofei Shen; Afra Alishahi (Tilburg University); Arianna Bisazza (University of Groningen); Grzegorz Chrupala (Tilburg University)

Tue-P2.5 ⌚ 10:00–12:00 **Effective Training of Attention-based Contextual Biasing Adapters with Synthetic Audio for Personalised ASR**

Burin Naowarat (Chulalongkorn University); Philip Harding (Amazon Alexa); Pasquale D'Alterio (Amazon); Sibong Tong (Amazon Alexa); Bashar Awwad Shiekh Hasan (Amazon)

Tue-P2.6 ⌚ 10:00–12:00 **Pushing the Limits of Unsupervised Unit Discovery for SSL Speech Representation**

Ziyang Ma; Zhisheng Zheng; Guanrou Yang; Yu Wang (Shanghai Jiao Tong University); Chao Zhang (Tsinghua University); Xie Chen (Shanghai Jiaotong University)

Tue-P2.7 ⌚ 10:00–12:00 **SlothSpeech: Denial-of-service Attack Against Speech Recognition Models**

Mirazul Haque; Rutvij Shah (University of Texas at Dallas); Simin Chen (UTD); Berrak Sisman (The University of Texas at Dallas); Cong Liu; Wei Yang (University of Texas at Dallas)

Tue-P2.8 ⌚ 10:00–12:00 **CLRL-Tuning: A Novel Continual Learning Approach for Automatic Speech Recognition**

Zhihan Wang; Feng Hou; Ruili Wang (Massey University)

Tue-P2.9 ⌚ 10:00–12:00 **Exploring Sources of Racial Bias in Automatic Speech Recognition through the Lens of Rhythmic Variation**

Li-Fang Lai (Pomona College); Nicole Holliday (Pomona College)

Tue-P2.10 ⌚ 10:00–12:00 **Can Contextual Biasing Remain Effective with Whisper and GPT-2?**

Guangzhi Sun (University of Cambridge Department of Engineering); Xianrui Zheng (University of Cambridge); Chao Zhang (Cambridge University); Philip C. Woodland (Machine Intelligence Laboratory, Cambridge University Department of Engineering)

Tue-P2.11 ⌚ 10:00–12:00 **Masked Modeling Duo for Speech: Specializing General-Purpose Audio Representation to Speech using Denoising Distillation**

Daisuke Niizumi; Daiki Takeuchi; Yasunori Ohishi (NTT Corporation); Noboru Harada (NTT); Kunio Kashino (NTT Communication Science Laboratories)

Tue-P2.12 ⌚ 10:00–12:00 **Improving RNN Transducer Acoustic Models for English Conversational Speech Recognition**

Xiaodong Cui (IBM T. J. Watson Research Center); George Saon (IBM); Brian Kingsbury (IBM Research)

Tue-P2.13 ⌚ 10:00–12:00 **MixRep: Hidden Representation Mixup for Low-Resource Speech Recognition**

Jiamin Xie (CRSS, UTDallas); John H. L. Hansen (University of Texas at Dallas)

Tue-P2.14 ⌚ 10:00–12:00 **Improving Chinese Mandarin Speech Recognition Using Semantic Graph Embedding Regularization**

Yangshi Lin; Wenhuan Lu; Yongzhe Jia; Guoning Ma (Tianjin University); Jianguo Wei (School of Computer Software, Tianjin University, Tianjin, China)

Tue-P2.15 ⌚ 10:00–12:00 **Adapting Multi-Lingual ASR Models for Handling Multiple Talkers**

Chenda Li (Shanghai Jiao Tong University); Yao Qian; Zhuo Chen; Naoyuki Kanda; Dongmei Wang; Takuya Yoshioka (Microsoft); Yanmin Qian (Shanghai Jiao Tong University); Michael Zeng (Microsoft)

Tue-P2.16 ⌚ 10:00–12:00 **Adapter-tuning with Effective Token-dependent Representation Shift for Automatic Speech Recognition**

Dianwen Ng (Alibaba Group/Nanyang Technological University); Chong Zhang (Speech Lab of DAMO Academy, Alibaba Group); Ruixi Zhang (National University of Singapore); Yukun Ma; Trung Hieu Nguyen (Alibaba Group); Chongjia Ni (Alibaba); Shengkui Zhao; Qian Chen; Wen Wang (Alibaba Group); Eng Siong Chng (Nanyang Technological University); Bin Ma (Alibaba, Singapore R&D Center)

Tue-P2.17 ⌚ 10:00–12:00 **Model-Internal Slot-triggered Biasing for Domain Expansion in Neural Transducer ASR Models**

Yiting Lu (University of Cambridge); Philip Harding (Amazon Alexa); Kanthashree Mysore Sathyendra; Sibor Tong (Amazon); Xuandi Fu (Amazon Alexa); Jing Liu (Amazon.com); Feng-Ju Chang; Simon Wiesler (Amazon); Grant P. Strimel (Amazon Alexa)

Tue-P2.18 ⌚ 10:00–12:00 **Delay-penalized CTC Implemented Based on Finite State Transducer**

Zengwei Yao; Wei Kang; Fangjun Kuang; Liyong Guo; Xiaoyu Yang; Yifan Yang; Long Lin (Xiaomi Corp.); Daniel Povey (Johns Hopkins University)

Tue-P3 - Speech, Voice, and Hearing Disorders 1

POSTER 📍 Forum Poster Area 3

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Mengyue Wu

Tue-P3.1 ⌚ 10:00–12:00 **Debiased Automatic Speech Recognition for Dysarthric Speech via Sample Reweighting with Sample Affinity Test**

Eungbeom Kim; Yunkee Chae; Jaeheon Sim; Kyogu Lee (Seoul National University)

Tue-P3.2 ⌚ 10:00–12:00 **Multimodal Locally Enhanced Transformer for Continuous Sign Language Recognition**

Katerina Papadimitriou (University of Thessaly); Gerasimos Potamianos (ECE, University of Thessaly)

Tue-P3.3 ⌚ 10:00–12:00 **Towards Supporting an Early Diagnosis of Multiple Sclerosis using Vocal Features**

Monica Gonzalez-Machorro (audEERING GmbH / University of Potsdam); Pascal Hecker (audEERING GmbH / Digital Health - Connected Healthcare, Hasso Plattner Institute, University of Potsdam); Uwe D. Reichel (audEERING GmbH); Helly N. Hammer; Robert Hoepner; Lisa Pedrotti; Alisha Zmutt (Bern University Hospital and University of Bern); Hesam Sagha (audEERING GmbH); Johan van Beek (Biogen Switzerland AG); Florian Eyben (audEERING); Dagmar M. Schuller (audEERING GmbH); Björn W. Schuller (University of Augsburg); Bert Arnrich (Hasso Plattner Institute, Digital Engineering Faculty, University of Potsdam)

Tue-P3.4 ⌚ 10:00–12:00 **Whisper Features for Dysarthric Severity-Level Classification**

Siddharth Rathod; Monil Charola (DAICT); Akshat Vora (Dhirubhai Ambani Institute of Information and Communication Technology); Yash Jogi (Sprinklr); Hemant A. Patil (DAICT, Gujrat)

Tue-P3.5 ⌚ 10:00–12:00 **A New Benchmark of Aphasia Speech Recognition and Detection Based on E-Branchformer and Multi-task Learning**

Jiyang Tang; William Chen; Xuankai Chang; Shinji Watanabe (Carnegie Mellon University); Brian MacWhinney (CMU)

Tue-P3.6 ⌚ 10:00–12:00 **Dysarthric Speech Recognition, Detection and Classification using Raw Phase and Magnitude Spectra**

Zhengjun Yue (Technische Universiteit Delft); Erfan Loweimi (University of Cambridge); Zoran Cvetkovic (King's College London)

Tue-P3.7 ⌚ 10:00–12:00 **A Stutter Seldom Comes Alone – Cross-Corpus Stuttering Detection as a Multi-label Problem**

Sebastian P. Bayerl; Dominik Wagner; Ilja Baumann (Technische Hochschule Nürnberg Georg Simon Ohm); Florian Hönig (KST Institut GmbH); Tobias Bocklet (Technische Hochschule Nürnberg Georg Simon Ohm); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Korbinian Riedhammer (Technische Hochschule Nürnberg Georg Simon Ohm)

Tue-P3.8 ⌚ 10:00–12:00 **Transfer Learning to Aid Dysarthria Severity Classification for Patients with Amyotrophic Lateral Sclerosis**

Tanuka Bhattacharjee; Anjali Jayakumar (Indian Institute of Science); Yamini Belur; Atchayaram Nalini; Ravi Yadav (NIMHANS); Prasanta Kumar Ghosh (Indian Institute of Science (IISc), Bangalore)

Tue-P3.9 ⌚ 10:00–12:00 **DuTa-VC: A Duration-aware Typical-to-atypical Voice Conversion Approach with Diffusion Probabilistic Model**

Helin Wang; Thomas Thebaud; Jesús Villalba (Johns Hopkins University); Myra Sydnor; Becky Lammers (Johns Hopkins University School of Medicine); Najim Dehak; Laureano Moro-Velazquez (Johns Hopkins University)

Tue-P3.10 ⌚ 10:00–12:00 **CNVVE: Dataset and Benchmark for Classifying Non-verbal Voice**

Ramin Hedeshy; Raphael Menges (University of Stuttgart); Steffen Staab (University of Stuttgart and University of Southampton)

Tue-P3.11 ⌚ 10:00–12:00 **Arabic Dysarthric Speech Recognition Using Adversarial and Signal-Based Augmentation**

Massa Baali; Ibrahim Almakky (Mohamed Bin Zayed University of Artificial Intelligence); Shady Shehata (Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)); Fakhri Karray (University of Waterloo)

Tue-P3.12 ⌚ 10:00–12:00 **Weakly-supervised forced alignment of disfluent speech using phoneme-level modeling**

Theodoros Kouzelis (NTUA); Georgios Paraskevopoulos (National Technical University of Athens); Athanasios Katsamanis (ATHENA R.C., Behavioral Signal Technologies); Vassilis Katsouros (Athena Research Center)

Tue-P3.13 ⌚ 10:00–12:00 **Glottal source analysis of voice deficits in basal ganglia dysfunction: evidence from de novo Parkinson's disease and Huntington's disease**

Michal Novotný; Tereza Tykalová; Michal Šimek; Tomáš Kouba; Jan Rusz (Czech Technical University in Prague)

Tue-P3.14 ⌚ 10:00–12:00 **An Analysis of Glottal Features of Chronic Kidney Disease Speech and Its Application to CKD Detection**

Jihyun Mun; Sunhee Kim; Myeong Ju Kim (Seoul National University); Jiwon Ryu; Sejoong Kim (Seoul National University Bundang Hospital); Minhwa Chung (Seoul National University)

Tue-P3.15 ⌚ 10:00–12:00 **Weakly supervised glottis segmentation in high-speed videoendoscopy using bounding box labels**

Varun Belagali (Stony Brook University); Achuth Rao (Qualcomm); Prasanta Kumar Ghosh (Indian Institute of Science)

Tue-P4 - Spoken Language Translation, Information Retrieval, Summarization, Resources, and Evaluation 1

POSTER 📍 Forum Poster Area 4

📅 Tuesday 22 August 2023 ⌚ 10:00–12:00
Session chairs : Shankar Kumar

Tue-P4.1 ⌚ 10:00–12:00 **Pragmatic Pertinence: A Learnable Confidence Metric to Assess the Subjective Quality of LM-Generated Text**

Jerome R. Bellegarda (Etsy)

Tue-P4.2 ⌚ 10:00–12:00 **ASR and Emotional Speech: A Word-Level Investigation of the Mutual Impact of Speech and Emotion Recognition**

Yuanchao Li; Zeyu Zhao; Ondřej Klejch; Peter Bell; Catherine Lai (University of Edinburgh)

Tue-P4.3 ⌚ 10:00–12:00 **BASS: Block-wise Adaptation for Speech Summarization**

Roshan Sharma; Siddhant Arora; Kenneth Zheng; Shinji Watanabe; Rita Singh; Bhiksha Raj (Carnegie Mellon University)

Tue-P4.4 ⌚ 10:00–12:00 **Speaker Tracking using Graph Attention Networks with Varying Duration Utterances across Multi-Channel Naturalistic Data: Fearless Steps Apollo-11 Audio Corpus**

Meena M. C. Shekar (The University of Texas at Dallas); John H. L. Hansen (University of Texas at Dallas)

Tue-P4.5 ⌚ 10:00–12:00 **Combining language corpora in a Japanese electromagnetic articulography database for acoustic-to-articulatory inversion**

Tianfang Yan (Osaka University); Kikuo Maekawa; Yukiko Nota (National Institute for Japanese Language and Linguistics); Masayuki Hirata (Osaka University Graduate School of Medicine)

Tue-P4.6 ⌚ 10:00–12:00 **A Dual Attention-based Modality-Collaborative Fusion Network for Emotion Recognition**

Xiaoheng Zhang (Beihang University); Yang Li (Department of Automation Sciences and Electrical Engineering, Beihang University)

Tue-P4.7 ⌚ 10:00–12:00 **Large Dataset Generation of Synchronized Music Audio and Lyrics at Scale using Teacher-Student Paradigm**

Cristian Chivriga (Technical University of Munich); Rinita Roy (Technical University of Munich)

Tue-P4.8 ⌚ 10:00–12:00 **Enc-Dec RNN Acoustic Word Embeddings learned via Pair-wise Prediction**

Adhiraj Banerjee (IIT Kanpur); Vipul Arora (IIT Kanpur)

Tue-P4.9 ⌚ 10:00–12:00 **Query Based Acoustic Summarization for Podcasts**

Samantha Kotey (Trinity College Dublin); Rozenn Dahyot (Maynooth University); Naomi Harte (Trinity College Dublin)

Tue-P4.10 ⌚ 10:00–12:00 **Spot Keywords From Very Noisy and Mixed Speech**

Ying Shi (Harbin Institute of Technology); Dong Wang (Tsinghua University); Lantian Li (Beijing University of Posts and Telecommunications); Jiqing Han (Harbin Institute of Technology); Shi Yin (Huawei Technologies Co.)

Tue-P4.11 ⌚ 10:00–12:00 **Knowledge Distillation on Joint Task End-to-End Speech Translation**

Khandokar Md. Nayem (Indiana University); Ran Xue (Amazon Inc.); Ching-Yun Chang; Akshaya Vishnu Kudlu Shanbhogue (Alexa AI)

Tue-P4.12 ⌚ 10:00–12:00 **Investigating Pre-trained Audio Encoders in the Low-Resource Condition**

Hao Yang; Jinming Zhao (Monash University); Gholamreza Haffari (Monash University, Australia); Ehsan Shareghi (Monash University)

Tue-P4.13 ⌚ 10:00–12:00 **Improving Textless Spoken Language Understanding with Discrete Units as Intermediate Target**

Guan-Wei Wu; Guan-Ting Lin (National Taiwan University); Shang-Wen Li (Meta AI); Hung-yi Lee (National Taiwan University)

Tue-S3 - Speech and Language in Health: From Remote Monitoring to Medical Conversations 1

SPECIAL 📍 Liffey Meeting Room 2

📅 Tuesday 22 August 2023 ⌚ 13:30–15:30
Session chairs : Nicholas Cummins, Thomas Schaaf

Tue-S3.PP ⌚ 13:30–14:00 **Poster pitches**

Tue-S3.1 ⌚ 14:00–15:30 **An Automatic Multi-modal Approach to Analyze Linguistic and Acoustic Cues on Parkinson's Disease Patients**

Daniel Escobar-Grisales (University of Antioquia); Tomás Arias-Vergara (Friedrich-Alexander-Universität Erlangen-Nürnberg); Cristian David Ríos-Urrego (University of Antioquia); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Adolfo M. García (University of California); Juan Rafael Orozco-Arroyave (University of Antioquia)

Tue-S3.2 🕒 14:00–15:30 **Personalization for Robust Voice Pathology Detection in Sound Waves**

Khanh-Tung Tran; Truong Hoang; Duy Khuong Nguyen (FPT Software Ltd. - FPT Corporation); Hoang D. Nguyen (University College Cork); Xuan-Son Vu (Umeå University)

Tue-S3.3 🕒 14:00–15:30 **Integrated and Enhanced Pipeline System to Support Spoken Language Analytics for Screening Neurocognitive Disorders**

Helen Meng (The Chinese University of Hong Kong); Brian Mak (The Hong Kong University of Science and Technology); Man-Wai Mak (The Hong Kong Polytechnic University); Helene Fung; Xianmin Gong; Timothy Kwok; Xunying Liu; Vincent Mok (The Chinese University of Hong Kong); Patrick Wong (Chinese University of Hong Kong); Jean Woo; Xixin Wu; Ka Ho Wong (The Chinese University of Hong Kong); Shensheng Xu (The Hong Kong Polytechnic University); Najun Zheng (The Chinese University of Hong Kong); Ranzo Huang (The Hong Kong University of Science and Technology); Jiawen Kang (The Chinese University of Hong Kong); Xiaoquan Ke (The Hong Kong Polytechnic University); Junan Li; Jinchao Li; Yi Wang (The Chinese University of Hong Kong)

Tue-S3.4 🕒 14:00–15:30 **Capturing Mismatch between Textual and Acoustic Emotion Expressions for Mood Identification in Bipolar Disorder**

Minxue Niu; Amrit Romana; Mimansa Jaiswal; Melvin McInnis; Emily Mower Provost (University of Michigan)

Tue-S3.5 🕒 14:00–15:30 **FTA-net: A Frequency and Time Attention Network for Speech Depression Detection**

Qifei Li; Dong Wang; Yiming Ren; Yingming Gao; Ya Li (Beijing University Of Posts and Telecommunications)

Tue-S3.6 🕒 14:00–15:30 **Bayesian Networks for the robust and unbiased prediction of depression and its symptoms utilizing speech and multimodal data**

Salvatore Fara; Orlaith Hickey; Alexandra Georgescu; Stefano Gorla; Emilia Molimpakis (thymia); Nicholas Cummins (King's College London)

Tue-S3.7 🕒 14:00–15:30 **Hyper-parameter**

Adaptation of Conformer ASR Systems for Elderly and Dysarthric Speech Recognition

Tianzi Wang (The Chinese University of HongKong); Shoukang Hu (Nanyang Technological University); Jiajun Deng (The Chinese University of HongKong); Zengrui Jin; Mengzhe Geng; Yi Wang; Helen Meng; Xunying Liu (The Chinese University of Hong Kong)

Tue-S3.8 🕒 14:00–15:30 **Classifying depression symptom severity: Assessment of speech representations in personalized and generalized machine learning models.**

Edward L. Campbell (University of Vigo); Judith Dineley (King's College London); Pauline Conde (King's College London); Faith Matcham (University of Sussex); Katie M. White; Carolin Oetzmann; Sara Simblett; Stuart Bruce; Amos A. Folarin; Til Wykes (King's College London); Srinivasan Vairavan (Janssen Research and Development LLC); Richard J. B. Dobson (King's College London); Laura Docio-Fernandez (Universidade de Vigo); Carmen Garcia-Mateo (Universidad de Vigo); Vaibhav A. Narayan (Davos Alzheimer's Collaborative); Matthew Hoptopf (King's College London); Nicholas Cummins (King's College London)

Tue-S3.9 🕒 14:00–15:30 **Active Learning for Abnormal Lung Sound Data Curation and Detection in Asthma**

Shabnam Ghaffarzadegan (BOSCH Research North America); Luca Bondi (Bosch Research); Ho-Hsiang Wu (Bosch Center for Artificial Intelligence); Sirajum Munir (Bosch Research and Technology Center); Kelly J. Shields (Highmark Health); Samarjit Das (Bosch Research); Joseph Aracri (Allegheny Health Network)

Tue-S3.10 🕒 14:00–15:30 **Automatic Assessment of Alzheimer's across Three Languages Using Speech and Language Features**

Paula A. Pérez-Toro; Tomás Arias-Vergara (Friedrich-Alexander-Universität Erlangen-Nürnberg); Franziska Braun (Technische Hochschule Nürnberg); Florian Hönig (KST Institut GmbH); Carlos A. Tobón-Quintero; David Aguillón; Francisco Lopera; Liliana Hincapié-Henao (Universidad de Antioquia); Maria Schuster (Ludwig-Maximilians University); Korbinian Riedhammer (Technische Hochschule Nürnberg Georg Simon Ohm); Andreas Maier; Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Juan Rafael Orozco-Aroyave (University of Antioquia)

Tue-S3.11 🕒 14:00–15:30 **On-the-Fly Fea-**

ture Based Rapid Speaker Adaptation for Dysarthric and Elderly Speech Recognition

Mengzhe Geng (The Chinese University of Hong Kong); Xurong Xie (Institute of Software, Chinese Academy of Sciences); Rongfeng Su (Key Laboratory of Human-Machine Intelligence-Synergy Systems, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Jianwei Yu (Tencent AI lab); Zengrui Jin (The Chinese University of Hong Kong); Tianzi Wang (The Chinese University of Hong Kong); Shujie Hu; Zi Ye; Helen Meng; Xunying Liu (The Chinese University of Hong Kong)

Tue-S3.12 14:00–15:30 Relationship between LTAS-based spectral moments and acoustic parameters of hypokinetic dysarthria in Parkinson's disease

Jan Svihlik; Vojtěch Illner; Petr Kryze (Czech Technical University in Prague); Mário Sousa; Paul Krack (University Hospital of Bern); Elina Tripoliti (University College London); Robert Jech (Charles University, Czechia); Jan Rusz (Czech Technical University in Prague)

Tue-S3.13 14:00–15:30 Respiratory distress estimation in human-robot interaction scenario

Eduardo Alvarado (Speech Processing and Transmission Laboratory); Nicolás Grágeda (Universidad de Chile); Alejandro Luzanto; Rodrigo Mahu; Jorge Wuth; Laura Mendoza (University of Chile); Richard Stern (Carnegie Mellon University); Néstor Becerra Yoma (University of Chile)

Tue-S3.14 14:00–15:30 Prediction of the Gender-based Violence Victim Condition using Speech: What do Machine Learning Models rely on?

Emma Reyner-Fuentes; Esther Rituerto-González (Universidad Carlos III de Madrid); Isabel Trancoso (INESC ID); Carmen Peláez-Moreno (Universidad Carlos III de Madrid)

Tue-S3.15 14:00–15:30 Whisper Encoder features for Infant Cry Classification

Monil Charola; Aastha Kachhi (DAICT); Hemant A. Patil (DAICT, Gujrat)

Tue-O6 - Speech Recognition: Technologies and Systems for New Applications 3

ORAL

📍 The Auditorium

📅 Tuesday 22 August 2023 ⌚ 13:30–15:30
Session chairs : Xunying Liu, Ondrej Klejch

Tue-O6.1 13:30–13:50 An Efficient and Noise-Robust Audiovisual Encoder for Audiovisual Speech Recognition

Zhengyang Li; Chenwei Liang; Timo Lohrenz; Marvin Sach; Björn Möller; Tim Fingscheidt (Technische Universität Braunschweig)

Tue-O6.2 13:50–14:10 A Novel Self-training Approach for Low-resource Speech Recognition

Satwinder Singh; Feng Hou; Ruili Wang (Massey University)

Tue-O6.3 14:10–14:30 FunASR: A Fundamental End-to-End Speech Recognition Toolkit

Zhifu Gao; Zerui Li; Jiaming Wang; Haoneng Luo; Xian Shi; Mengzhe Chen; Yabin Li; Lingyun Zuo; Zhihao Du; Shiliang Zhang (Alibaba Group)

Tue-O6.4 14:30–14:50 Streaming Audio-Visual Speech Recognition with Alignment Regularization

Pingchuan Ma; Niko Moritz (Meta); Stavros Petridis (Imperial College London); Christian Fuegen (Facebook); Maja Pantic (Facebook / Imperial College London)

Tue-O6.5 14:50–15:10 SparseVSR: Lightweight and Noise Robust Visual Speech Recognition

Adriana Fernandez-Lopez; Honglie Chen; Pingchuan Ma (Meta); Alexandros Haliassos; Stavros Petridis (Imperial College London); Maja Pantic (Facebook / Imperial College London)

Tue-O6.6 15:10–15:30 Multimodal Speech Recognition for Language-Guided Embodied Agents

Allen Chang; Xiaoyuan Zhu; Aarav Monga; Seoho Ahn; Tejas Srinivasan; Jesse Thomason (University of Southern California)

Tue-O7 - Spoken Term Detection and Voice Search

ORAL 📍 Wicklow Hall 2

📅 Tuesday 22 August 2023 ⌚ 13:30–15:30
Session chairs : Xavier Anguera, Jerome Bellegarda

Tue-O7.1 ⌚ 13:30–13:50 Matching Latent Encoding for Audio-Text based Keyword Spotting

Kumari Nishu; Minsik Cho; Devang Naik (Apple)

Tue-O7.2 ⌚ 13:50–14:10 Self-Paced Pattern Augmentation for Spoken Term Detection in Zero-Resource

Sudhakar P (Indian Institute of Technology, Kharagpur); Sreenivasa K. Rao; Pabitra Mitra (IIT Kharagpur)

Tue-O7.3 ⌚ 14:10–14:30 On-Device Constrained Self-Supervised Speech Representation Learning for Keyword Spotting via Knowledge Distillation

Gene-Ping Yang (University of Edinburgh); Yue Gu (Amazon); Qingming Tang (Amazon, Alexa); Dongsu Du; Yuzong Liu (Amazon)

Tue-O7.4 ⌚ 14:30–14:50 Online Continual Learning in Keyword Spotting for Low-Resource Devices via Pooling High-Order Temporal Statistics

Umberto Michieli; Pablo Peso Parada; Mete Ozay (Samsung Research UK)

Tue-O7.5 ⌚ 14:50–15:10 Improving Small Footprint Few-shot Keyword Spotting with Supervision on Auxiliary Data

Seunghan Yang (Qualcomm AI Research); Byeonggeun Kim (Amazon Alexa AI); Kyuhong Shim; Simyoung Chang (Qualcomm AI Research)

Tue-O7.6 ⌚ 15:10–15:30 Robust Keyword Spotting for Noisy Environments by Lever-

aging Speech Enhancement and Speech Presence Probability

Chouchang Yang; Yashas Malur Saidutta; Rakshith Sharma Srinivasa; Ching-Hua Lee; Yilin Shen; Hongxia Jin (Samsung Research America)

Tue-O8 - Models for Streaming ASR

ORAL 📍 Liffey Hall 2

📅 Tuesday 22 August 2023 ⌚ 13:30–15:30
Session chairs : Penny Karanasou, Ralf Schlüter

Tue-O8.1 ⌚ 13:30–13:50 Enhancing the Unified Streaming and Non-streaming Model with Contrastive Learning

Yuting Yang; Yuke Li; Binbin Du (NetEase Yidun AI Lab)

Tue-O8.2 ⌚ 13:50–14:10 ZeroPrompt: Streaming Acoustic Encoders are Zero-Shot Masked LMs

Xingchen Song (Tsinghua University); Di Wu (Horizon Inc.); Binbin Zhang; Zhendong Peng (Horizon Robotics); Bo Dang; Fuping Pan (WeNet Open Source Community); Zhiyong Wu (Tsinghua University)

Tue-O8.3 ⌚ 14:10–14:30 Improved Training for End-to-End Streaming Automatic Speech Recognition Model with Punctuation

Hanbyul Kim (NAVER Cloud); Seunghyun Seo (NAVER Corporation); Lukas Lee; Seolki Baek (NAVER Cloud)

Tue-O8.4 ⌚ 14:30–14:50 DCTX-Conformer: Dynamic context carry-over for low latency unified streaming and non-streaming Conformer

Goeric Huybrechts; Srikanth Ronanki; Xilai Li (Amazon); Hadis Nosrati (AWS AI Labs); Sravan Bodapati; Katrin Kirchhoff (Amazon)

Tue-O8.5 ⌚ 14:50–15:10 Knowledge Distillation from Non-streaming to Streaming ASR Encoder using Auxiliary Non-streaming Layer

Kyuhong Shim; Jinkyu Lee; Simyoung Chang; Kyuwoong Hwang (Qualcomm AI Research)

Tue-08.6 🕒 15:10–15:30 **Adaptive Contextual Biasing for Transducer Based Streaming Speech Recognition**

Tianyi Xu (NWPU); Zhanheng Yang (Northwestern Polytechnical University); Kaixun Huang (NWPU); Pengcheng Guo; Ao Zhang (Northwestern Polytechnical University); Biao Li; Changru Chen; Chao Li (OPPO); Lei Xie (NWPU)

Tue-09 - Source Separation

ORAL 📍 Liffey Hall 1

📅 Tuesday 22 August 2023 🕒 13:30–15:30
Session chairs : Rainer Martin, Emmanuel Vincent

Tue-09.1 🕒 13:30–13:50 **Audio-Visual Speech Separation in Noisy Environments with a Lightweight Iterative Model**

Héctor Martel (Tsinghua University); Julius Richter (Universität Hamburg); Kai Li; Xiaolin Hu (Tsinghua University); Timo Gerkmann (Universität Hamburg)

Tue-09.2 🕒 13:50–14:10 **Remixing-based Unsupervised Source Separation from Scratch**

Kohei Saijo (Waseda University); Tetsuji Ogawa (Waseda University)

Tue-09.3 🕒 14:10–14:30 **CAPTDURE: Captioned Sound Dataset of Single Sources**

Yuki Okamoto; Kanta Shimonishi (Ritsumeikan University); Keisuke Imoto (Doshisha University); Kota Dohi (Hitachi Ltd.); Shota Horiguchi; Yohei Kawaguchi (Hitachi, Ltd.)

Tue-09.4 🕒 14:30–14:50 **Recursive Sound Source Separation with Deep Learning-based Beamforming for Unknown Number of Sources**

Hokuto Munakata; Ryu Takeda; Kazunori Komatani (Osaka University)

Tue-09.5 🕒 14:50–15:10 **Multi-Channel Speech Separation with Cross-Attention and Beamforming**

Ladislav Mosner; Oldřich Plchot; Junyi Peng; Lukáš Burget; Jan "Honza" Černocký (Brno University of Technology)

Tue-09.6 🕒 15:10–15:30 **Background-Sound Controllable Voice Source Separation**

Deokjun Eom; Woo Hyun Nam; Kyung-Rae Kim (Samsung Electronics)

Tue-O10 - Speech Perception

ORAL 📍 Wicklow Hall 1

📅 Tuesday 22 August 2023 🕒 13:30–15:30
Session chairs : Jennifer Cole, Meg Zellers

Tue-O10.1 🕒 13:30–13:50 **A neural architecture for selective attention to speech features**

Nika Jurov; William Idsardi; Naomi H. Feldman (University of Maryland)

Tue-O10.2 🕒 13:50–14:10 **Quantifying Informational Masking due to Masker Intelligibility in Same-talker Speech-in-speech Perception**

Mingyue Huo; Yinglun Sun (University of Illinois at Urbana-Champaign); Dan Fogerty (University of Illinois Urbana-Champaign); Yan Tang (University of Illinois at Urbana-Champaign)

Tue-O10.3 🕒 14:10–14:30 **On the Benefits of Self-supervised Learned Speech Representations for Predicting Human Phonetic Misperceptions**

Santiago Cuervo (LIS); Ricard Marxer (Université de Toulon, Aix Marseille Univ, CNRS, LIS, Toulon)

Tue-O10.4 🕒 14:30–14:50 **Predicting Perceptual Centers Located at Vowel Onset in German Speech Using Long Short-Term Memory Networks**

Felicia Schulz (Lund University); Mirella De Sisto; M. Paula Roncaglia-Denissen; Peter Hendrix (Tilburg University)

Tue-O10.5 🕒 14:50–15:10 **Exploring the mutual intelligibility breakdown caused by sculpting speech from a competing speech signal**

Martin Cooke (Ikerbasque); María Luisa García Lecumberri (University of the Basque Country)

Tue-O10.6 🕒 15:10–15:30 **Perception of Incomplete Voicing Neutralization of Obstruents in Tohoku Japanese**

Mafuyu Kitahara (Sophia University); Naoya Watabe (The University of Tokyo); Hiroto Noguchi (Tokyo Medical and Dental University); Chuyu Huang (Nagoya Gakuin University); Ayako Hashimoto (Tokyo Kasei-gakuin College); Ai Mizoguchi (Maebashi Institute of Technology)

Tue-O11 - Phonetics and Phonology: Languages and Varieties

ORAL 📍 EcoCem Room

📅 Tuesday 22 August 2023 🕒 13:30–15:30
Session chairs : Hui Feng, Barbara Schuppler

Tue-O11.1 🕒 13:30–13:50 **The emergence of obstruent-intrinsic f₀ and VOT as cues to the fortis/lenis contrast in West Central Bavarian**

Jasmin Pöhnlein (Institute for Phonetics and Speech Processing, LMU Munich); Felicitas Kleber (Institute for Phonetics and Speech Processing, LMU Munich)

Tue-O11.2 🕒 13:50–14:10 **⟨ʔ⟩ in Tsimane': a Preliminary Investigation**

William N. Havard (Laboratoire de Sciences Cognitives et de Psycholinguistique, Département d'études cognitives, ENS, EHESS, CNRS, PSL University); Yaya Sy (ENS); Camila Scaff (University of Zurich); Loann Peurey (Laboratoire de Sciences Cognitives et de Psycholinguistique, Département d'études cognitives, ENS, EHESS, CNRS, PSL University); Alejandrina Cristia (Exelang, CNRS, LSCP)

Tue-O11.3 🕒 14:10–14:30 **Segmental features of Brazilian (Santa Catarina) Hunsrik**

Dennis Hoffmann (Trinity College Dublin); Maria O'Reilly (Trinity College Dublin)

Tue-O11.4 🕒 14:30–14:50 **Opening or Closing? An Electroglottographic Analysis of Voiceless Coda Consonants in Australian English**

Louise Ratko; Joshua Penney; Felicity Cox (Macquarie University)

Tue-O11.5 🕒 14:50–15:10 **Increasing aspiration of word-medial fortis plosives in Swiss Standard German**

Franka Zebe (University of Zurich)

Tue-O11.6 🕒 15:10–15:30 **Lexical Stress and Velar Palatalization in Italian: A spatio-temporal Interaction**

Bowei Shao (Département d'études cognitives, École Normale Supérieure, PSL University); Philipp Buech (Laboratoire de Phonétique et Phonologie, UMR 7018, CNRS/Sorbonne Nouvelle); Anne Hermes (Laboratoire de Phonétique et Phonologie, UMR 7018, CNRS/Sorbonne Nouvelle, Paris); Maria Giavazzi (Département d'études cognitives, École Normale Supérieure, PSL University)

Tue-P5 - Speech Synthesis and Voice Conversion

POSTER 📍 Forum Poster Area 1

📅 Tuesday 22 August 2023 🕒 13:30–15:30
Session chairs : Pirros Tsiakoulis

Tue-P5.1 🕒 13:30–15:30 **Mitigating the Exposure Bias in Sentence-Level Grapheme-to-Phoneme (G2P) Transduction**

Eunseop Yoon; Hee Suk Yoon (KAIST); Dhananjaya Gowda (Samsung Electronics); SooHwan Eom; Dae-hyeok Kim (KAIST); John Harvill; Heting Gao (University of Illinois at Urbana-Champaign); Mark Hasegawa-Johnson (University of Illinois); Chanwoo Kim (Samsung Electronics); Chang D. Yoo (KAIST)

Tue-P5.2 🕒 13:30–15:30 **Streaming Parrottron for on-device speech-to-speech conversion**

Oleg Rybakov (Google); Fadi Biadisy; Xia Zhang; Liyang Jiang (Google Research); Phoenix Meadowlark; Shivani Agrawal (Google)

Tue-P5.3 🕒 13:30–15:30 **Exploiting Emotion Information in Speaker Embeddings for Expressive Text-to-Speech**

Zein Shaheen; Tasnima Sadekova (Huawei Noah's Ark Lab); Yulia Matveeva; Alexandra Shirshova (Huawei Noah's Ark Lab); Mikhail Kudinov (Huawei Noah's Ark Lab)

Tue-P5.4 ⌚ 13:30–15:30 **E2E-S2S-VC: End-To-End Sequence-To-Sequence Voice Conversion**

Takuma Okamoto (National Institute of Information and Communications Technology); Tomoki Toda (Nagoya University); Hisashi Kawai (NICT)

Tue-P5.5 ⌚ 13:30–15:30 **DC CoMix TTS: An End-to-End Expressive TTS with Discrete Code Collaborated with Mixer**

Yerin Choi (Sogang University); Myoung-Wan Koo (Sogang University)

Tue-P5.6 ⌚ 13:30–15:30 **Voice Conversion With Just Nearest Neighbors**

Matthew Baas (Stellenbosch University); Benjamin van Niekerk (Stellenbosch); Herman Kamper (Stellenbosch University)

Tue-P5.7 ⌚ 13:30–15:30 **CFVC: Conditional Filtering for Controllable Voice Conversion**

Kou Tanaka; Takuhiro Kaneko; Hirokazu Kameoka; Shogo Seki (NTT Corporation)

Tue-P5.8 ⌚ 13:30–15:30 **DualVC: Dual-mode Voice Conversion using Intra-model Knowledge Distillation and Hybrid Predictive Coding**

Ziqian Ning; Yuepeng Jiang (Northwestern Polytechnical University); Pengcheng Zhu (Fuxi AI Lab, NetEase Inc.); Jixun Yao (Northwestern Polytechnical University); Shuai Wang (Shanghai Jiao Tong University); Lei Xie (NWPU); Mengxiao Bi (NetEase Inc)

Tue-P5.9 ⌚ 13:30–15:30 **Attention-based Interactive Disentangling Network for Instance-level Emotional Voice Conversion**

Yun Chen; Lingxiao Yang; Qi Chen; Jian-Huang Lai; Xiaohua Xie (Sun Yat-sen University)

Tue-P5.10 ⌚ 13:30–15:30 **ALO-VC: Any-to-any Low-latency One-shot Voice Conversion**

Bohan Wang (École Polytechnique Fédérale de Lausanne); Damien Ronssin (Logitech Europe S.A.); Milos Cernak (Logitech Europe)

Tue-P5.11 ⌚ 13:30–15:30 **Evaluating and reducing the distance between synthetic and real speech distributions**

Christoph Minixhofer (The University of Edinburgh); Ondřej Klejch; Peter Bell (University of Edinburgh)

Tue-P5.12 ⌚ 13:30–15:30 **Decoupling Segmental and Prosodic Cues of Non-native Speech through Vector Quantization**

Waris Quamer; Anurag Das; Ricardo Gutierrez-Osuna (Texas A&M University)

Tue-P5.13 ⌚ 13:30–15:30 **VC-T: Streaming Voice Conversion Based on Neural Transducer**

Hiroki Kanagawa (NTT Corporation); Takafumi Moriya (NTT); Yusuke Ijima (NTT Corporation)

Tue-P5.14 ⌚ 13:30–15:30 **Emo-StarGAN: A Semi-Supervised Any-to-Many Non-Parallel Emotion-Preserving Voice Conversion**

Suhita Ghosh (Otto von Guericke University); Arnab Das (Otto-von-Guericke-University); Yamini Sinha (OvGU Magdeburg); Ingo Siegert (OvG University Magdeburg); Tim Polzehl (German Research Center for Artificial Intelligence); Sebastian Stober (Otto von Guericke University)

Tue-P5.15 ⌚ 13:30–15:30 **ControlVC: Zero-Shot Voice Conversion with Time-Varying Controls on Pitch and Speed**

Meiying Chen (University of Rochester); Zhiyao Duan (University of Rochester)

Tue-P5.16 ⌚ 13:30–15:30 **Reverberation-Controllable Voice Conversion Using Reverberation Time Estimator**

Yeonjong Choi; Chao Xie; Tomoki Toda (Nagoya University)

Tue-P5.17 ⌚ 13:30–15:30 **Cross-utterance Conditioned Coherent Speech Editing**

Cheng Yu (ShanghaiTech University); Yang Li (The University of Manchester); Weiqin Zu; Fanglei Sun; Zheng Tian (ShanghaiTech University); Jun Wang (UCL)

Tue-P6 - Spoken Language Translation, Information Retrieval, Summarization, Resources, and Evaluation 2

POSTER 📍 Forum Poster Area 2

📅 Tuesday 22 August 2023 ⌚ 13:30–15:30
Session chairs : Torbjørn Svendsen

Tue-P6.1 ⌚ 13:30–15:30 MAVD: The First Open Large-Scale Mandarin Audio-Visual Dataset with Depth Information

Jianrong Wang (School of Computer Science and Technology, Tianjin University, Tianjin, China); Yuchen Huo (Tianjin University); Li Liu (The Hong Kong University of Science and Technology (Guangzhou)); Tianyi Xu; Qi Li; Sen Li (Tianjin University)

Tue-P6.2 ⌚ 13:30–15:30 CN-Celeb-AV: A Multi-Genre Audio-Visual Dataset for Person Recognition

Lantian Li (Beijing University of Posts and Telecommunications); Xiaolou Li (BUPT); Haoyu Jiang; Chen Chen (THU); Ruihai Hou (BUPT); Dong Wang (Tsinghua University)

Tue-P6.3 ⌚ 13:30–15:30 Improving Zero-shot Cross-domain Slot Filling via Transformer-based Slot Semantics Fusion

Yuhang Li; Xiao Wei; Yuke Si; Longbiao Wang (Tianjin University); Xiaobao Wang (Tianjin University); Jianwu Dang (Tianjin University)

Tue-P6.4 ⌚ 13:30–15:30 Rethinking Transfer and Auxiliary Learning for Improving Audio Captioning Transformer

Wooseok Shin; Hyun Joon Park; Jin Sob Kim (Korea University); Dongwon Kim; Seungjin Lee (SK Telecom); Sung Won Han (Korea University)

Tue-P6.5 ⌚ 13:30–15:30 Boosting Punctuation Restoration with Data Generation and Reinforcement Learning

Viet Dac Lai (University of Oregon); Abel Salinas (University of Southern California); Hao Tan; Trung Bui; Quan Tran; Seunghyun Yoon; Hanieh Deilamsalehy; Franck Dernoncourt (Adobe Research); Thien Huu Nguyen (University of Oregon)

Tue-P6.6 ⌚ 13:30–15:30 J-ToneNet: A Transformer-based Encoding Network for Improving Tone Classification in Continuous Speech via F0 Sequences

Yi-Fen Liu (IECS, Feng Chia University); Xiang-Li Lu (IECS, Feng Chia University)

Tue-P6.7 ⌚ 13:30–15:30 Towards Cross-Language Prosody Transfer for Dialog

Jonathan E. Avila (University of Texas at El Paso); Nigel G. Ward (UTEP)

Tue-P6.8 ⌚ 13:30–15:30 Strategies for Improving Low Resource Speech to Text Translation Relying on Pre-trained ASR Models

Santosh Kesiraju; Marek Sarvaš (Brno University of Technology); Tomáš Pavlíček (Phonexia); Cécile Macaire (Université Grenoble Alpes); Alejandro Ciuba (University of Pittsburgh)

Tue-P6.9 ⌚ 13:30–15:30 ITALIC: An Italian Intent Classification Dataset

Alkis Koudounas (Politecnico di Torino); Moreno La Quatra (Kore University of Enna); Lorenzo Vaiani; Luca Colomba (Politecnico di Torino); Giuseppe Attanasio (Bocconi University); Eliana Pastor (Politecnico di Torino); Luca Cagliero (Dipartimento di Automatica e Informatica Politecnico di Torino); Elena Baralis (Politecnico di Torino)

Tue-P6.10 ⌚ 13:30–15:30 Perceptual and Task-Oriented Assessment of a Semantic Metric for ASR Evaluation

Janine Rugayan; Giampiero Salvi; Torbjørn Svendsen (NTNU)

Tue-P6.11 ⌚ 13:30–15:30 How ChatGPT is Robust for Spoken Language Understanding?

Guangpeng Li; Lu Chen; Kai Yu (Shanghai Jiao Tong University)

Tue-P6.12 ⌚ 13:30–15:30 GigaST: A 10,000-hour Pseudo Speech Translation Corpus

Rong Ye; Chengqi Zhao; Tom Ko; Chutong Meng; Tao Wang; Mingxuan Wang; Jun Cao (ByteDance)

Tue-P6.13 ⌚ 13:30–15:30 Boosting Chinese ASR Error Correction with Dynamic Error Scaling Mechanism

Jiixin Fan (Lanzhou University); Yong Zhang (Ping An Technology (Shenzhen) Co., Ltd); Hanzhang Li (Lanzhou University); Jianzong Wang (Ping An Technology (Shenzhen) Co., Ltd); Zhitao Li; Sheng Ouyang (Ping An Technology); Ning Cheng (Ping An Technology (Shenzhen) Co., Ltd); Jing Xiao (Ping An Insurance (Group) Company of China)

Tue-P6.14 🕒 13:30–15:30

Crowdsource-based Validation of the Audio Cocktail as a Sound Browsing Tool

Per Fallgren (KTH); Jens Edlund (KTH Royal Institute of Technology)

Tue-P6.15 🕒 13:30–15:30

PunCantonese: A Benchmark Corpus for Low-Resource Cantonese Punctuation Restoration from Speech Transcripts

Yunxiang Li (The Chinese University of Hong Kong); Pengfei Liu (CPII); Xixin Wu; Helen Meng (The Chinese University of Hong Kong)

Tue-P6.16 🕒 13:30–15:30

Speech-to-Face Conversion Using Denoising Diffusion Probabilistic Models

Shuhei Kato (RevComm Inc.); Taiichi Hashimoto (RevComm Inc.)

Tue-P6.17 🕒 13:30–15:30

Inter-connection: Effective Connection between Pre-trained Encoder and Decoder for Speech Translation

Yuta Nishikawa (Nara Institute of Science and Technology); Satoshi Nakamura (Nara Institute of Science and Technology, Japan)

Tue-P7 - Paralinguistics 2

POSTER

📍 Forum Poster Area 3

📅 Tuesday 22 August 2023 🕒 13:30–15:30

Session chairs : Alessandro Vinciarelli

Tue-P7.1 🕒 13:30–15:30

Speaker Embeddings as Individuality Proxy for Voice Stress Detection

Zihan Wu (EPFL); Neil Scheidwasser-Clow (University of Copenhagen); Karl El Hajal (EPFL); Milos Cernak (Logitech Europe)

Tue-P7.2 🕒 13:30–15:30

From Interval to Ordinal: A HMM based Approach for Emotion Label Conversion

Jingyao Wu (University of New South Wales); Ting Dang (Nokia Bell Labs); Vidhyasaharan Sethu (University of New South Wales); Eliathamby Ambikairajah (The University of New South Wales)

Tue-P7.3 🕒 13:30–15:30

Turbo your multi-modal classification with contrastive learning

Zhiyu Zhang; Da Liu; Shengqiang Liu; Anna Wang; Jie Gao; Yali Li (NIO)

Tue-P7.4 🕒 13:30–15:30

Towards Paralinguistic-Only Speech Representations for End-to-End Speech Emotion Recognition

Georgios Ioannides (Carnegie Mellon University); Michael Owen; Andrew Fletcher; Viktor Rozgic; Chao Wang (Amazon Alexa)

Tue-P7.5 🕒 13:30–15:30

SOT: Self-supervised Learning-Assisted Optimal Transport for Unsupervised Adaptive Speech Emotion Recognition

Ruiteng Zhang (Tianjin University); Jianguo Wei (School of Computer Software, Tianjin University, Tianjin, China); Xugang Lu (NICT); Yongwei Li (Chinese Academy of Sciences); Junhai Xu (Tianjin Key Laboratory of Cognitive Computing and Application, College of Intelligence and Computing, Tianjin University); Di Jin (Tianjin University); Jianhua Tao (Tsinghua University)

Tue-P7.6 🕒 13:30–15:30

On the Efficacy and Noise-Robustness of Jointly Learned Speech Emotion and Automatic Speech Recognition

Lokesh Bansal (Indian Institute of Science); S. Pavankumar Dubagunta (Uniphore Software Systems); Malolan Chetlur (Uniphore); Pushpak Jagtap (Indian Institute of Science); Aravind Ganapathiraju (Uniphore)

Tue-P7.7 🕒 13:30–15:30

Speaking State Decoder with Transition Detection for Next Speaker Prediction

Shao-Hao Lu (National Tsing Hua University); Yun-Shao Lin (Electrical Engineering Department, National Tsing Hua University); Chi-Chun Lee (National Tsing Hua University)

Tue-P7.8 ⌚ 13:30–15:30 **What are differences? Comparing DNN and Human by Their Performance and Characteristics in Speaker Age Estimation**

Yuki Kitagishi (NTT Corporation); Naohiro Tawara (NTT); Atsunori Ogawa; Ryo Masumura (NTT Corporation); Taichi Asami (NTT)

Tue-P7.9 ⌚ 13:30–15:30 **Effects of perceived gender on the perceived social function of laughter**

Joop Arts (University of Twente); Khiet P. Truong (University of Twente)

Tue-P7.10 ⌚ 13:30–15:30 **Implicit phonetic information modeling for speech emotion recognition**

Tilak Purohit (Idiap Research Institute); Bogdan Vlasenko (Idiap); Mathew Magimai.-Doss (Idiap Research Institute)

Tue-P7.11 ⌚ 13:30–15:30 **Computation and Memory Efficient Noise Adaptation of Wav2Vec2.0 for Noisy Speech Emotion Recognition with Skip Connection Adapters**

Seong-Gyun Leem (University of Texas at Dallas); Daniel Fulford (Boston University); Jukka-Pekka Onnela (T.H. Chan School of Public Health Harvard University); David Gard (San Francisco State University); Carlos Busso (University of Texas at Dallas)

Tue-P7.12 ⌚ 13:30–15:30 **Multi-Level Knowledge Distillation for Speech Emotion Recognition in Noisy Conditions**

Yang Liu; Haoqin Sun; Geng Chen; Qingyue Wang; Zhen Zhao (Qingdao University of Science and Technology); Xugang Lu (NICT); Longbiao Wang (Tianjin University)

Tue-P7.13 ⌚ 13:30–15:30 **Preference Learning Labels by Anchoring on Consecutive Annotations**

Abinay Reddy Naini; Ali N. Salman (The University of Texas at Dallas); Carlos Busso (University of Texas at Dallas)

Tue-P7.14 ⌚ 13:30–15:30 **Transforming the Embeddings: A Lightweight Technique for Speech Emotion Recognition Tasks**

Orchid Chetia Phukan; Arun Balaji Buduru (IIIT Delhi); Rajesh Sharma (University of Tartu, Estonia)

Tue-P7.15 ⌚ 13:30–15:30 **Learning Local to Global Feature Aggregation for Speech Emotion Recognition**

Cheng Lu; Hailun Lian; Wenming Zheng; Yuan Zong; Yan Zhao; Sunan Li (southeast university)

Tue-P7.16 ⌚ 13:30–15:30 **Supervised Contrastive Learning with Nearest Neighbor Search for Speech Emotion Recognition**

Xuechen Wang (Nankai University); Shiwan Zhao (Independent Researcher); Yong Qin (Nankai University)

Tue-P8 - Speaker and Language Identification 1

POSTER 📍 Forum Poster Area 4

📅 Tuesday 22 August 2023 ⌚ 13:30–15:30
Session chairs : Yooyoung Lee

Tue-P8.1 ⌚ 13:30–15:30 **Vietnam-Celeb: a large-scale dataset for Vietnamese speaker recognition**

Viet Thanh Pham; Xuan Thai Hoa Nguyen; Vu Hoang; Thi Thu Trang Nguyen (Hanoi University of Science and Technology)

Tue-P8.2 ⌚ 13:30–15:30 **What Can an Accent Identifier Learn? Probing Phonetic and Prosodic Information in a Wav2vec2-based Accent Identification Model**

Mu Yang; Ram C. M. C. Shekar (University of Texas at Dallas); Okim Kang (Northern Arizona University); John H. L. Hansen (University of Texas at Dallas)

Tue-P8.3 ⌚ 13:30–15:30 **The 2022 NIST Language Recognition Evaluation**

Yooyoung Lee; Craig Greenberg; Eliot Godard; Asad A. Butt (NIST); Elliot Singer; Trang Nguyen (MIT Lincoln Laboratory); Lisa Mason; Douglas Reynolds (U.S. Department of Defense)

Tue-P8.4 ⌚ 13:30–15:30 **Description and analysis of the KPT system for NIST Language Recognition Evaluation 2022**

Salvatore Sarni; Sandro Cumani (Politecnico di Torino); Sabato Marco Siniscalchi (Kore University of Enna); Andrea Bottino (Politecnico di Torino)

Tue-P8.5 ⌚ 13:30–15:30 **ACA-Net: Towards Lightweight Speaker Verification using Asymmetric Cross Attention**

Jia Qi Yip (Alibaba Group); Duc-Tuan Truong (Nanyang Technological University); Dianwen Ng (Alibaba Group/Nanyang Technological University); Chong Zhang (Speech Lab of DAMO Academy, Alibaba Group); Yukun Ma; Trung Hieu Nguyen (Alibaba Group); Chongjia Ni (Alibaba); Shengkui Zhao (Alibaba Group); Eng Siong Chng (Nanyang Technological University); Bin Ma (Alibaba, Singapore R&D Center)

Tue-P8.6 ⌚ 13:30–15:30 **Branch-ECAPA-TDNN: A Parallel Branch Architecture to Capture Local and Global Features for Speaker Verification**

Yiadi Yao; Chengdong Liang (Northwestern Polytechnical University); Zhendong Peng; Binbin Zhang (Horizon Robotics); Xiao-Lei Zhang (Northwestern Polytechnical University)

Tue-P8.7 ⌚ 13:30–15:30 **Speaker Verification Across Ages: Investigating Deep Speaker Embedding Sensitivity to Age Mismatch in Enrollment and Test Speech**

Vishwanath Pratap Singh (University of Eastern Finland); Md Sahidullah (Institute for Advancing Intelligence, TCG CREST); Tomi Kinnunen (University of Eastern Finland)

Tue-P8.8 ⌚ 13:30–15:30 **Wavelet Scattering Transform for Improving Generalization in Low-Resourced Spoken Language Identification**

Spandan Dey (Indian Institute of Technology Kharagpur); Premjeet Singh (IIT Kharagpur); Goutam Saha (Indian Institute of Technology Kharagpur)

Tue-P8.9 ⌚ 13:30–15:30 **A Parameter-Efficient Learning Approach to Arabic Dialect Identification with Pre-Trained General-Purpose Speech Model**

Srijith Radhakrishnan (Manipal Institute of Technology); Chao-Han Huck Yang (Georgia Institute of Technology); Sumeer Ahmad Khan (KAUST); Narsis A. Kiani (Karolinska Institute); David Gomez-Cabrero; Jesper N. Tegner (KAUST)

Tue-P8.10 ⌚ 13:30–15:30 **HABLA: A Dataset of Latin American Spanish Accents for Voice Anti-spoofing**

Pablo Andrés Tamayo Flórez; Rubén Manrique (Universidad de los Andes); Bernardo Pereira Nunes (Australian National University)

Tue-P8.11 ⌚ 13:30–15:30 **Self-supervised Learning Representation based Accent Recognition with Persistent Accent Memory**

Rui Li; Zhiwei Xie (Xinjiang University); Haihua Xu (Temasek Laboratories, Nanyang Technological University, Singapore); Yizhou Peng (National University of Singapore); Hexin Liu (Nanyang Technological University); Hao Huang (Xinjiang University); Eng Siong Chng (Nanyang Technological University)

Tue-P8.12 ⌚ 13:30–15:30 **Extremely Low Bit Quantization for Mobile Speaker Verification Systems Under 1MB Memory**

Bei Liu; Haoyu Wang; Yanmin Qian (Shanghai Jiao Tong University)

Tue-P8.13 ⌚ 13:30–15:30 **Unsupervised Out-of-Distribution Dialect Detection with Mahalanobis Distance**

Sourya Dipta Das; Yash Vadi; Abhishek Unnam; Kuldeep Yadav (SHL Labs)

Tue-P8.14 ⌚ 13:30–15:30 **pyannote.audio 2.1 speaker diarization pipeline: principle, benchmark, and recipe**

Hervé Bredin (CNRS)

Tue-P8.15 ⌚ 13:30–15:30 **Model Compression for DNN-based Speaker Verification Using Weight Quantization**

Jingyu Li; Wei Liu; Zhaoyang Zhang (The Chinese University of Hong Kong); Jiong Wang (The Chinese University of Hong Kong, Shenzhen); Tan Lee (The Chinese University of Hong Kong)

Tue-P8.16 ⌚ 13:30–15:30 **Multi-resolution Approach to Identification of Spoken Languages and To Improve Overall Language Diarization System Using Whisper Model**

Bhavik Vachhani (Augnito); Dipesh Singh; Rustom Lawyer (Augnito India Private Limited)

Tue-P8.17 🕒 13:30–15:30 **Improving Generalization Ability of Countermeasures for New Mismatch Scenario by Combining Multiple Advanced Regularization Terms**

Chang Zeng; Xin Wang; Xiaoxiao Miao; Erica Cooper; Junichi Yamagishi (National Institute of Informatics)

Tue-P8.18 🕒 13:30–15:30 **Dynamic Fully-Connected Layer for Large-Scale Speaker Verification**

Zhida Song (Xinjiang University); Liang He (Tsinghua University); Baowei Zhao (Xinjiang University); Minqiang Xu (SpeakIn Technologies Co. Ltd.); Yu Zheng (Xinjiang University)

Tue-SaT - Show and Tell: Speech tools, speech enhancement, speech synthesis

POSTER 📍 Show and Tell Area

📅 Tuesday 22 August 2023 🕒 13:30–15:30
Session chairs :

Tue-SaT.1 🕒 13:30–15:30 **DeepFilterNet: Perceptually Motivated Real-Time Speech Enhancement**

Hendrik Schröter (Pattern Recognition Lab, FAU Erlangen-Nuremberg); Alberto N. Escalante-B.; Tobias Rosenkranz (WS Audiology, Research and Development); Andreas Maier (Friedrich-Alexander-Universität Erlangen-Nürnberg)

Tue-SaT.2 🕒 13:30–15:30 **Nkululeko: Machine Learning Experiments on Speaker Characteristics Without Programming**

Felix Burkhardt (audEERING GmbH); Florian Eyben; Björn W. Schuller (audEERING)

Tue-SaT.3 🕒 13:30–15:30 **Sp1NY: A Quick and Flexible Speech Visualisation Tool in Python**

Sébastien Le Maguer (ADAPTCentre / Trinity College Dublin); Mark Anderson; Naomi Harte (Trinity College Dublin)

Tue-SaT.4 🕒 13:30–15:30 **Intonation Control for Neural Text-to-Speech Synthesis with Polynomial Models of F0**

Niamh Corkey; Johannah O'Mahony; Simon King (University of Edinburgh)

Tue-SaT.5 🕒 13:30–15:30 **So-to-Speak: An Exploratory Platform for Investigating the Interplay between Style and Prosody in TTS**

Éva Székely (KTH Royal Institute of Technology); Siyang Wang (KTH Royal Institute of Technology, Stockholm); Joakim Gustafson (KTH Royal Institute of Technology)

Tue-SaT.6 🕒 13:30–15:30 **Comparing /b/ and /d/ with a Single Physical Model of the Human Vocal Tract to Visualize Droplets Produced while Speaking**

Takayuki Arai (Sophia University); Tsukasa Yoshinaga; Akiyoshi Iida (Toyohashi University of Technology)

Tue-SaT.7 🕒 13:30–15:30 **Show & Tell: Voice Activity Projection and Turn-taking**

Erik Ekstedt (KTH); Gabriel Skantze (KTH)

Tue-SaT.8 🕒 13:30–15:30 **Real Time Detection of Soft Voice for Speech Enhancement**

Hector A. Cordourier (Intel); Georg Stemmer; Sinem Aslan (Intel Corp.); Tobias Bocklet (Technische Hochschule Nürnberg Georg Simon Ohm); Himanshu Bhalla (Intel Corp.)

Tue-SaT.9 🕒 13:30–15:30 **Data Augmentation for Diverse Voice Conversion in Noisy Environments**

Avani Tanna (University of California, Santa Barbara); Michael Saxon; Amr El Abbadi; William Yang Wang (University of California, Santa Barbara)

Tue-SaT.10 🕒 13:30–15:30 **Application for Real-time Audio-Visual Speech Enhancement**

Mandar Gogate; Kia Dashtipour; Amir Hussain (Edinburgh Napier University)

Tue-S4 - Speech and Language in Health: From Remote Monitoring to Medical Conversations 2

SPECIAL 📍 Liffey Meeting Room 2

📅 Tuesday 22 August 2023 🕒 16:00–18:00
Session chairs : Emily Mower Provost, Jing Su

Tue-S4.PP ⌚ 16:00–16:30 **Poster pitches**

Tue-S4.1 ⌚ 16:30–18:00 **Classifying Dementia in the Presence of Depression: A Cross-Corpus Study**

Franziska Braun (Technische Hochschule Nürnberg); Sebastian P. Bayerl (Technische Hochschule Nürnberg Georg Simon Ohm); Paula A. Pérez-Toro (Friedrich-Alexander-Universität Erlangen-Nürnberg); Florian Hönig (KST Institut GmbH); Hartmut Lehfeld; Thomas Hillemacher (Klinikum Nürnberg); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Tobias Bocklet; Korbinian Riedhammer (Technische Hochschule Nürnberg Georg Simon Ohm)

Tue-S4.2 ⌚ 16:30–18:00 **Exploiting Cross-Domain And Cross-Lingual Ultrasound Tongue Imaging Features For Elderly And Dysarthric Speech Recognition**

Shujie Hu (The Chinese University of Hong Kong); Xurong Xie (Institute of Software, Chinese Academy of Sciences); Mengzhe Geng; Mingyu Cui (The Chinese University of Hong Kong); Jiajun Deng (The Chinese University of HongKong); Guinan Li (Chinese University of HongKong); Tianzi Wang (The Chinese University of HongKong); Helen Meng; Xunying Liu (The Chinese University of Hong Kong)

Tue-S4.3 ⌚ 16:30–18:00 **Multi-class Detection of Pathological Speech with Latent Features: How does it perform on unseen data?**

Dominik Wagner; Ilja Baumann (Technische Hochschule Nürnberg Georg Simon Ohm); Franziska Braun (Technische Hochschule Nürnberg); Sebastian P. Bayerl (Technische Hochschule Nürnberg Georg Simon Ohm); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Korbinian Riedhammer; Tobias Bocklet (Technische Hochschule Nürnberg Georg Simon Ohm)

Tue-S4.4 ⌚ 16:30–18:00 **Responsiveness, Sensitivity and Clinical Utility of Timing-Related Speech Biomarkers for Remote Monitoring of ALS Disease Progression**

Hardik Kothare; Michael Neumann; Jackson Liscombe (Modality.AI); Jordan Green (MGH Institute of Health Professions); Vikram Ramanarayanan (University of California, San Francisco & Modality.AI)

Tue-S4.5 ⌚ 16:30–18:00 **Use of Speech Im-**

pairment Severity for Dysarthric Speech Recognition

Mengzhe Geng; Zengrui Jin (The Chinese University of Hong Kong); Tianzi Wang (The Chinese University of HongKong); Shujie Hu (The Chinese University of Hong Kong); Jiajun Deng (The Chinese University of HongKong); Mingyu Cui (The Chinese University of Hong Kong); Guinan Li (Chinese University of HongKong); Jianwei Yu (Tencent AI lab); Xurong Xie (Institute of Software, Chinese Academy of Sciences); Xunying Liu (The Chinese University of Hong Kong)

Tue-S4.6 ⌚ 16:30–18:00 **MMLung: Moving Closer to Practical Lung Health Estimation using Smartphones**

Mohammed Mosuily; Lindsay Welch; Jagmohan Chauhan (University of Southampton)

Tue-S4.7 ⌚ 16:30–18:00 **Investigating the Utility of Synthetic Data for Doctor-Patient Conversation Summarization**

*Siyuan Chen (University of Illinois); Colin A. Grambow (3M Health Information Systems); Mojtaba Kadkhodaie Elyaderani; Alireza Sadeghi (3M); Federico Fancellu (3M Health Information Systems); Thomas Schaaf (3M | Health Information Systems / M*Modal)*

Tue-S4.8 ⌚ 16:30–18:00 **Non-uniform Speaker Disentanglement For Depression Detection From Raw Speech Signals**

Jinhan Wang (UCLA); Vijay Ravi (University of California Los Angeles); Abeer Alwan (UCLA)

Tue-S4.9 ⌚ 16:30–18:00 **PoCaPNet: A Novel Approach for Surgical Phase Recognition Using Speech and X-Ray Images**

Kubilay Can Demir (Speech and Language Processing, Friedrich-Alexander Universität Erlangen-Nürnberg); Tobias Weise (Friedrich-Alexander-Universität Erlangen-Nürnberg); Matthias May (Universitätsklinikum Erlangen, Radiologisches Institut); Axel Schmid (University hospital of Erlangen, Dep. of Radiology); Andreas Maier (Friedrich-Alexander-Universität Erlangen-Nürnberg); Seung Hee Yang (Friedrich-Alexander Universität Erlangen-Nürnberg (FAU))

Tue-S4.10 ⌚ 16:30–18:00 **Combining Multiple Multimodal Speech Features into an Interpretable Index Score for Capturing Disease Progression in Amyotrophic Lateral Sclerosis**

Michael Neumann; Hardik Kothare (Modality.AI); Vikram Ramanarayanan (University of California, San Francisco & Modality.AI)

Tue-S4.11 ⌚ 16:30–18:00 **The MASCFLIGHT Corpus: Face Mask Type and Coverage Area Recognition from Speech**

Adria Mallol-Ragolta; Nils Urbach; Shuo Liu; Anton Batliner; Björn W. Schuller (University of Augsburg)

Tue-S4.12 ⌚ 16:30–18:00 **Towards Reference Speech Characterization for Health Applications**

Catarina Botelho; Alberto Abad (INESC-ID/IST, University of Lisbon); Tanja Schultz (University of Bremen); Isabel Trancoso (INESC-ID/IST, University of Lisbon)

Tue-S4.13 ⌚ 16:30–18:00 **Automatic Classification of Hypokinetic and Hyperkinetic Dysarthria based on GMM-Supervectors**

Cristian David Ríos-Urrego (University of Antioquia); Jan Rusz (Czech Technical University in Prague); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Juan Rafael Orozco-Arroyave (University of Antioquia)

Tue-S4.14 ⌚ 16:30–18:00 **Towards robust paralinguistic assessment for real-world mobile health (mHealth) monitoring: an initial study of reverberation effects on speech**

Judith Dineley (King's College London); Ewan Carr (King's College London); Faith Matcham (University of Sussex); Johnny Downs (King's College London); Richard J. B. Dobson (King's College London); Thomas F. Quatieri (Massachusetts Institute of Technology Lincoln Laboratory); Nicholas Cummins (King's College London)

Tue-O12 - Novel Transformer Models for ASR

ORAL 📍 The Auditorium

📅 Tuesday 22 August 2023 ⌚ 16:00–18:00
Session chairs : Bhuvana Ramabhadran, Haizhou Li

Tue-O12.1 ⌚ 16:00–16:20 **Conformer: Streaming Conformer Without Self-attention for Interactive Voice Assistants**

Martin Radfar; Paulina Lyskawa; Brandon Trujillo; Yi Xie; Kai Zhen; Jahn Heymann; Denis Filimonov (Amazon); Grant P. Strimel (Amazon Alexa); Nathan Susanj (Alexa Machine Learning); Athanasios Mouchtaris (Amazon Alexa)

Tue-O12.2 ⌚ 16:20–16:40 **Intra-ensemble: A New Method for Combining Intermediate Outputs in Transformer-based Automatic Speech Recognition**

Dohee Kim; Jieun Choi; Joon-Hyuk Chang (Hanyang University)

Tue-O12.3 ⌚ 16:40–17:00 **A Comparative Study on E-Branchformer vs Conformer in Speech Recognition, Translation, and Understanding Tasks**

Yifan Peng (Carnegie Mellon University); Kwangyoung Kim; Felix Wu (ASAPP); Brian Yan; Siddhant Arora; William Chen; Jiyang Tang (Carnegie Mellon University); Suwon Shon; Prashant Sridhar (ASAPP); Shinji Watanabe (Carnegie Mellon University)

Tue-O12.4 ⌚ 17:00–17:20 **HyperConformer: Multi-head HyperMixer for Efficient Speech Recognition**

Florian Mai; Juan Zuluaga-Gomez (Idiap Research Institute); Titouan Parcollet (Samsung AI Cambridge / University of Cambridge); Petr Motlicek (Idiap)

Tue-O12.5 ⌚ 17:20–17:40 **Memory-augmented conformer for improved end-to-end long-form ASR**

Carlos Carvalho (INESC-ID); Alberto Abad (INESC-ID)

Tue-O12.6 ⌚ 17:40–18:00 **Towards Effective and Compact Contextual Representation for Conformer Transducer Speech Recognition Systems**

Mingyu Cui; Jiawen Kang (The Chinese University of Hong Kong); Jiajun Deng (The Chinese University of Hong Kong); Xi Yin (International Digital Economy Academy); Yutao Xie (Peng Cheng Laboratory); Xie Chen (Shanghai Jiaotong University); Xunying Liu (The Chinese University of Hong Kong)

Tue-O13 - Speaker Recognition 1

ORAL 📍 Wicklow Hall 2

📅 Tuesday 22 August 2023 ⌚ 16:00–18:00
Session chairs : Tanel Alumae, Tomi Kinnunen

Tue-O13.1 ⌚ 16:00–16:40 - Survey Talk

Current trends in speaker verification / Extracting speaker-related representations from speech

Oldřich Plchot

Tue-O13.3 ⌚ 16:40–17:00 **An Enhanced Res2Net with Local and Global Feature Fusion for Speaker Verification**

Yafeng Chen (Speech Lab, Alibaba Group); Siqi Zheng (Alibaba Group); Hui Wang (Speech Lab, Alibaba Group); Luyao Cheng (Alibaba Group); Qian Chen (Speech Lab, DAMO Academy, Alibaba Group); Jiajun Qi (University of Science and Technology of China)

Tue-O13.4 ⌚ 17:00–17:20 **A Study on Visualization of Voiceprint Feature**

Jian Zhang (Xinjiang University); Liang He (Tsinghua University); Xiaochen Guo; Jing Ma (Xinjiang University)

Tue-O13.5 ⌚ 17:20–17:40 **VoxTube: a multilingual speaker recognition dataset**

Ivan Yakovlev (ID R&D); Anton Okhotnikov; Nikita Torgashov; Rostislav Makarov; Yuri Voevodin (ID R&D Inc.); Konstantin Simonchik (ID R&D Inc)

Tue-O13.6 ⌚ 17:40–18:00 **Visualizing Data Augmentation in Deep Speaker Recognition**

Pengqi Li (Xinjiang University); Lantian Li (Beijing University of Posts and Telecommunications); Askar Hamdulla (Xinjiang University); Dong Wang (Tsinghua University)

Tue-O14 - Voice Conversion

ORAL 📍 Liffey Hall 2

📅 Tuesday 22 August 2023 ⌚ 16:00–18:00
Session chairs : Zhenhua Ling, Tomoki Toda

Tue-O14.1 ⌚ 16:00–16:20 **Emotional Voice**

Conversion with Semi-Supervised Generative Modeling

Hai Zhu (Changhong AI Lab (CHAIR)); Huayi Zhan (Changhong Inc.); Hong Cheng (UESTC); Ying Wu (Northwestern University)

Tue-O14.2 ⌚ 16:20–16:40 **Diff-HierVC: Diffusion-based Hierarchical Voice Conversion with Robust Pitch Generation and Masked Prior for Zero-shot Speaker Adaptation**

Ha-Yeong Choi; Sang-Hoon Lee; Seong-Whan Lee (Korea University)

Tue-O14.3 ⌚ 16:40–17:00 **S2CD: Self-heuristic Speaker Content Disentanglement for Any-to-Any Voice Conversion**

Pengfei Wei (AI Lab, Bytedance); Xiang Yin (ByteDance AI LAB); Chunfeng Wang (Bytedance Inc); Zhonghao Li (ByteDance); Xinghua Qu (Bytedance Research); Zhiqiang Xu (MBZUAI); Zejun Ma (Bytedance)

Tue-O14.4 ⌚ 17:00–17:20 **Flow-VAE VC: End-to-End Flow Framework with Contrastive Loss for Zero-shot Voice Conversion**

Le Xu (ucas); Rongxiu Zhong; Ying Liu; Huibao Yang; Shilei Zhang (China Mobile Research Institute)

Tue-O14.5 ⌚ 17:20–17:40 **Automatic Speech Disentanglement for Voice Conversion using Rank Module and Speech Augmentation**

Zhonghua Liu (East China University of Science and Technology); Shijun Wang (University of St. Gallen); Ning Chen (East China University of Science and Technology)

Tue-O14.6 ⌚ 17:40–18:00 **End-to-End Zero-Shot Voice Conversion with Location-Variable Convolutions**

Wonjune Kang (Massachusetts Institute of Technology); Mark Hasegawa-Johnson (University of Illinois); Deb Roy (Massachusetts Institute of Technology)

Tue-O15 - Cross-lingual and Multilingual ASR

ORAL 📍 Liffey Hall 1

📅 Tuesday 22 August 2023 ⌚ 16:00–18:00
Session chairs : Hanan Al Damarki, Petr Cerva

Tue-O15.1 🕒 16:00–16:20 **Fast and Efficient Multilingual Self-Supervised Pre-training for Low-Resource Speech Recognition**

Zhilong Zhang; Wei Wang; Yanmin Qian (Shanghai Jiao Tong University)

Tue-O15.2 🕒 16:20–16:40 **UniSplice: Universal Cross-Lingual Data Splicing for Low-Resource ASR**

Wei Wang (Shanghai Jiao Tong University); Yanmin Qian (Shanghai Jiao Tong University)

Tue-O15.3 🕒 16:40–17:00 **Allophant: Cross-lingual Phoneme Recognition with Articulatory Attributes**

Kevin Glocker; Aaricia Herygers (Technische Hochschule Ingolstadt); Munir Georges (Technische Hochschule Ingolstadt, Intel Labs Germany)

Tue-O15.4 🕒 17:00–17:20 **Phonetic-assisted Multi-Target Units Modeling for Improving Conformer-Transducer ASR system**

Li Li (Shanghai Normal University); Dongxing Xu (Unisound AI Technology Co., Ltd.); Haoran Wei (University of Texas at Dallas); Yanhua Long (Shanghai Normal University)

Tue-O15.5 🕒 17:20–17:40 **Comparison of Multilingual Self-Supervised and Weakly-Supervised Speech Pre-Training for Adaptation to Unseen Languages**

Andrew Rouditchenko (MIT CSAIL); Sameer Khurana (Massachusetts Institute of Technology); Samuel Thomas (IBM Research AI); Rogerio Feris (MIT-IBM Watson AI Lab, IBM Research); Leonid Karlinsky (IBM-Research); Hilde Kuehne (MIT-IBM Watson AI Lab); David Harwath (The University of Texas at Austin); Brian Kingsbury (IBM Research); James Glass (Massachusetts Institute of Technology)

Tue-O15.6 🕒 17:40–18:00 **DistilXLSR: A Light Weight Cross-Lingual Speech Representation Model**

Haoyu Wang; Siyuan Wang; Wei-Qiang Zhang (Tsinghua University); Jinfeng Bai (TAL Education)

Tue-O16 - Pathological Speech Analysis 1

ORAL 📍 Wicklow Hall 1

📅 Tuesday 22 August 2023 🕒 16:00–18:00
Session chairs : Melanie Jouaiti, Ning Ma

Tue-O16.1 🕒 16:00–16:20 **Multimodal Assessment of Bulbar Amyotrophic Lateral Sclerosis (ALS) Using a Novel Remote Speech Assessment App**

Leif Simmatis (University Health Network); Timothy Pomeé (Sunnybrook Research Institute); Yana Yunusova (University of Toronto)

Tue-O16.2 🕒 16:20–16:40 **On the Use of High Frequency Information for Voice Pathology Classification**

David Martínez (Lumenvox); Dayana Ribas (ViVoLab, University of Zaragoza); Eduardo Lleida (University of Zaragoza)

Tue-O16.3 🕒 16:40–17:00 **Do Phonatory Features Display Robustness to Characterize Parkinsonian Speech Across Corpora?**

Anna Favaro; Tianyu Cao; Thomas Thebaud (Johns Hopkins University); Jesus Villalba; Ankur Butala (The Johns Hopkins University); Najim Dehak; Laureano Moro-Velazquez (Johns Hopkins University)

Tue-O16.4 🕒 17:00–17:20 **Severity Classification of Parkinson's Disease from Speech using Single Frequency Filtering-based Features**

Sudarsana Reddy Kadiri; Manila Kodali; Paavo Alku (Aalto University)

Tue-O16.5 🕒 17:20–17:40 **Comparison of acoustic measures of dysphonia in Parkinson's disease and Huntington's disease: Effect of sex and speaking task**

Michal Šimek; Tomáš Kouba; Michal Novotný; Tereza Tykalová; Jan Ruzs (Czech Technical University in Prague)

Tue-O16.6 🕒 17:40–18:00 **Alzheimer Disease Classification through ASR-based Tran-**

criptions: Exploring the Impact of Punctuation and Pauses

Lucía Gómez-Zaragozá (Instituto Universitario de Investigación en Tecnología Centrada en el Ser Humano, Universitat Politècnica de València); Simone Wills; Cristian Tejedor-García (Radboud Universiteit Nijmegen); Javier Marín-Morales; Mariano Alcañiz (Instituto Universitario de Investigación en Tecnología Centrada en el Ser Humano, Universitat Politècnica de València); Helmer Strik (Radboud Universiteit Nijmegen)

Information Science, Japan Advanced Institute of Science and Technology, Ishikawa, Japan)

Tue-O17.5 17:20–17:40 Meta-domain Adversarial Contrastive Learning for Alleviating Individual Bias in Self-sentiment Predictions

Zhi Li; Ryu Takeda (Osaka University); Takahiro Hara (Osaka University, Japan)

Tue-O17 - Multimodal Speech Emotion Recognition

ORAL EcoCem Room

Tuesday 22 August 2023 16:00–18:00
Session chairs : Gabor Gosztolya, Julia Hirschberg

Tue-O17.6 17:40–18:00 SWRR: Feature Map Classifier Based on Sliding Window Attention and High-Response Feature Reuse for Multimodal Emotion Recognition

Ziping Zhao; Tian Gao (Tianjin Normal University); Haishuai Wang (Zhejiang University); Björn W. Schuller (Imperial College London)

Tue-O17.1 16:00–16:20 LanSER: Language-Model Supported Speech Emotion Recognition

Taesik Gong (KAIST); Josh Belanich; Krishna Somandepalli (Google Research); Arsha Nagrani (Google); Brian Eoff; Brendan Jou (Google Research)

Tue-P9 - Analysis of Speech and Audio Signals 2

POSTER Forum Poster Area 1

Tuesday 22 August 2023 16:00–13:00
Session chairs : Srikanth Madikeri

Tue-O17.2 16:20–16:40 Fine-tuned RoBERTa Model with a CNN-LSTM Network for Conversational Emotion Recognition

Jiachen Luo (Queen Mary University of London); Huy Phan (Amazon Alexa); Joshua Reiss (Queen Mary University of London)

Tue-P9.1 16:00–18:00 Blind Estimation of Room Impulse Response from Monaural Reverberant Speech with Segmental Generative Neural Network

Zhiheng Liao (Hummingbird Audio Lab, Alibaba Group); Feifei Xiong (Alibaba Group); Juan Luo (Hunan University); Minjie Cai (The University of Tokyo, Japan); Eng Siong Chng (Nanyang Technological University); Jinwei Feng (Alibaba Group); Xionghu Zhong (Nanyang Technological University)

Tue-O17.3 16:40–17:00 Emotion Label Encoding Using Word Embeddings for Speech Emotion Recognition

Eimear Stanley; Eric DeMattos; Anita Klementiev; Piotr Ozimek; Georgia Clarke; Michael Berger; Dimitri Palaz (Speech Graphics Ltd)

Tue-P9.2 16:00–18:00 Emotion-Aware Audio-Driven Face Animation via Contrastive Feature Disentanglement

Xin Ren; Juan Luo; Xionghu Zhong; Minjie Cai (Hunan University)

Tue-O17.4 17:00–17:20 Discrimination of the Different Intents Carried by the Same Text Through Integrating Multimodal Information

Zhongjie Li; Gaoyan Zhang; Longbiao Wang (Tianjin University); Jianwu Dang (School of Computer Science and Technology, Tianjin University, Tianjin, China; School of

Tue-P9.3 16:00–18:00 Anomalous Sound Detection Based on Sound Separation

Kanta Shimonishi (Ritsumeikan University); Kota Dohi (Hitachi Ltd.); Yohei Kawaguchi (Hitachi, Ltd.)

Tue-P9.4 ⌚ 16:00–18:00 **Random Forest Classification of Breathing Phases from Audio Signals Recorded using Mobile Devices**

Vitória S. Fahed; Emer P Doheny; Madeleine M Lowery (University College Dublin)

Tue-P9.5 ⌚ 16:00–18:00 **GRAVO: Learning to Generate Relevant Audio from Visual Features with Noisy Online Videos**

Youngdo Ahn (GIST); Chengyi Wang (Nankai University); Yu Wu (Microsoft Research Asia); Jong Won Shin (Gwangju Institute of Science and Technology); Shujie Liu (Microsoft Research Asia)

Tue-P9.6 ⌚ 16:00–18:00 **Wav2ToBI: a new approach to automatic ToBI transcription**

Wanyue Zhai (Stanford University); Mark Hasegawa-Johnson (University of Illinois)

Tue-P9.7 ⌚ 16:00–18:00 **Joint-Former: Jointly Regularized and Locally Down-sampled Conformer for Semi-supervised Sound Event Detection**

Lijian Gao; Qirong Mao (Jiangsu University); Ming Dong (Wayne State University)

Tue-P9.8 ⌚ 16:00–18:00 **Towards Attention-based Contrastive Learning for Audio Spoof Detection**

Chirag Goel (Reality Defender); Surya Koppiseti (Reality Defender Inc); Ben Colman (Reality Defender); Ali Shahriyari (Reality Defender Inc); Gaurav Bharaj (Multiple)

Tue-P9.9 ⌚ 16:00–18:00 **Masked Audio Modeling with CLAP and Multi-Objective Learning**

Yifei Xin (Peking University); Xiulian Peng; Yan Lu (Microsoft Research Asia)

Tue-P9.10 ⌚ 16:00–18:00 **Few-Shot Open-Set Learning for On-Device Customization of Keyword Spotting Systems**

Manuele Rusci (KU Leuven); Tinne Tuytelaars (KU Leuven)

Tue-P9.11 ⌚ 16:00–18:00 **Self-Supervised Dataset Pruning for Efficient Training in Audio Anti-spoofing**

Abdul Hameed Azeemi (Lahore University of Management Sciences); Ihsan Ayyub Qazi (Lahore University of Management Sciences (LUMS)); Agha Ali Raza (Lahore University of Management Sciences)

Tue-P9.12 ⌚ 16:00–18:00 **Semantic Segmentation with Bidirectional Language Models Improves Long-form ASR**

W. Ronny Huang; Hao Zhang; Shankar Kumar; Shuo-Yiin Chang; Tara Sainath (Google)

Tue-P9.13 ⌚ 16:00–18:00 **Multi-microphone Automatic Speech Segmentation in Meetings Based on Circular Harmonics Features**

Théo Mariotte (LAUM); Anthony Larcher (Université du Mans - LIUM); Silvio Montrésor; Jean-Hugh Thomas (Le Mans Université)

Tue-P9.14 ⌚ 16:00–18:00 **Advanced RawNet2 with Attention-based Channel Masking for Synthetic Speech Detection**

Jing Li; Yanhua Long (Shanghai Normal University); Yijie Li; Dongxing Xu (Unisound AI Technology Co., Ltd.)

Tue-P9.15 ⌚ 16:00–18:00 **Insights into end-to-end audio-to-score transcription with real recordings: A case study with saxophone works**

Juan Carlos Martínez-Sevilla; María Alfaro-Contreras (University of Alicante); Jose J. Valero-Mas (Universitat Pompeu Fabra); Jorge Calvo-Zaragoza (University of Alicante)

Tue-P9.16 ⌚ 16:00–18:00 **Whisper-AT: Noise-Robust Automatic Speech Recognizers are Also Strong General Audio Event Taggers**

Yuan Gong; Sameer Khurana (Massachusetts Institute of Technology); Leonid Karlinsky (IBM-Research); James Glass (Massachusetts Institute of Technology)

Tue-P9.17 ⌚ 16:00–18:00 **Synthetic Voice Spoofing Detection based on Feature Pyramid Conformer**

Jingran Gong (East China University of Science and Technology); Ning Chen (East China University of Science and Technology)

Tue-P9.18 🕒 16:00–18:00 **Learning A Self-Supervised Domain-Invariant Feature Representation for Generalized Audio Deepfake Detection**

Yuankun Xie; Haonan Cheng; Yutian Wang; Long Ye (Communication University of China)

Tue-P9.19 🕒 16:00–18:00 **Application of Knowledge Distillation to Multi-Task Speech Representation Learning**

Mine Kerpici (Georgia Institute of Technology); Van Nguyen; Shuhua Zhang; Erik Visser (Qualcomm)

Tue-P9.20 🕒 16:00–18:00 **DeCoR: Defy Knowledge Forgetting by Predicting Earlier Audio Codes**

Xilin Jiang; Yinghao Aaron Li; Nima Mesgarani (Columbia University)

Tue-P9.21 🕒 16:00–18:00 **Variational Classifier for Unsupervised Anomalous Sound Detection under Domain Generalization**

Antonio Almudévar (University of Zaragoza); Alfonso Ortega (Universidad de Zaragoza); Luis Vicente; Antonio Miguel; Eduardo Lleida (University of Zaragoza)

Tue-P9.22 🕒 16:00–18:00 **FlexiAST: Flexibility is What AST Needs**

Jiu Feng (Korea Advanced Institute of Science and Technology); Mehmet Hamza Erol; Joon Son Chung; Arda Senocak (KAIST)

Tue-P9.23 🕒 16:00–18:00 **MCR-Data2vec 2.0: Improving Self-supervised Speech Pre-training via Model-level Consistency Regularization**

Ji Won Yoon; Seok Min Kim; Nam Soo Kim (Seoul National University)

Tue-P9.24 🕒 11:00–13:00 **Visually-Aware Audio Captioning With Adaptive Audio-Visual Attention**

Xubo Liu; Qiushi Huang; Xinhao Mei; Haohe Liu (University of Surrey); Qiuqiang Kong (Byte Dance); Jianyuan Sun (University of Surrey); Shengchen Li (Xi'an Jiaotong-Liverpool University); Tom Ko (Bytedance); Yu Zhang (Southern University of Science and Technology); Lilian H. Tang; Mark D. Plumbley (University of Surrey); Volkan

Kılıç (Izmir Katip Celebi University); Wenwu Wang (University of Surrey)

Tue-P10 - Speech Coding and Enhancement 2

POSTER

📍 Forum Poster Area 2

📅 Tuesday 22 August 2023 🕒 16:00–18:00
Session chairs : Sabato Marco Siniscalchi

Tue-P10.1 🕒 16:00–18:00 **PCNN: A Lightweight Parallel Conformer Neural Network for Efficient Monaural Speech Enhancement**

Xinmeng Xu; Weiping Tu; Yuhong Yang (Wuhan University)

Tue-P10.2 🕒 16:00–18:00 **Exploring the Interactions Between Target Positive and Negative Information for Acoustic Echo Cancellation**

Chang Han (School of Computer Science, Wuhan University); Xinmeng Xu; Weiping Tu; Yuhong Yang (Wuhan University); Yajie Liu (School of Computer Science, Wuhan University)

Tue-P10.3 🕒 16:00–18:00 **Iterative autoregression: a novel trick to improve your low-latency speech enhancement model**

Pavel Andreev (Samsung AI Center Moscow); Nicholas Babaev (Samsung AI center); Azat Saginbaev; Ivan Shchekotov (Samsung); Aibek Alanov (Artificial Intelligence Research Institute)

Tue-P10.4 🕒 16:00–18:00 **A Multi-dimensional Deep Structured State Space Approach to Speech Enhancement Using Small-footprint Models**

Pin-Jui Ku; Chao-Han Huck Yang (Georgia Institute of Technology); Sabato Siniscalchi (Kore University of Enna); Chin-Hui Lee (Georgia Institute of Technology)

Tue-P10.5 🕒 16:00–18:00 **Domain Adaptation for Speech Enhancement in a Large Domain Gap**

Lior Frenkel (Bar-Ilan University); Jacob Goldberger (Bar-Ilan University); Shlomo E. Chazan (OriginAI)

Tue-P10.6 ⌚ 16:00–18:00 **SCP-GAN: Self-Correcting Discriminator Optimization for Training Consistency Preserving Metric GAN on Speech Enhancement Tasks**

Vasily Zadorozhnyy; Qiang Ye (University of Kentucky); Kazuhito Koishida (Microsoft)

Tue-P10.7 ⌚ 16:00–18:00 **A Mask Free Neural Network for Monaural Speech Enhancement**

Liang Liu (UNISOUND); Haixin Guan; Jinlong Ma; Wei Dai; Guangyong Wang; Shaowei Ding (Unisound AI Technology Co. Ltd)

Tue-P10.8 ⌚ 16:00–18:00 **A Training and Inference Strategy Using Noisy and Enhanced Speech as Target for Speech Enhancement without Clean Speech**

Li-Wei Chen; Yao-Fei Cheng (Academia Sinica); Hung-Shin Lee (North Co., Ltd.); Yu Tsao; Hsin-Min Wang (Academia Sinica)

Tue-P10.9 ⌚ 16:00–18:00 **A Simple RNN Model for Lightweight, Low-compute and Low-latency Multichannel Speech Enhancement in the Time Domain**

Ashutosh Pandey (META); Ke Tan (Meta Platforms, Inc.); Buye Xu (Meta Reality Labs Research)

Tue-P10.10 ⌚ 16:00–18:00 **High Fidelity Speech Enhancement with Band-split RNN**

Jianwei Yu (Tencent AI lab); Hangting Chen (Tencent ASSP OTeam); Yi Luo (Tencent AI Lab); Rongzhi Gu (Tencent); Chao Weng (Tencent AI Lab)

Tue-P10.11 ⌚ 16:00–18:00 **Focus on the Sound around You: Monaural Target Speaker Extraction via Distance and Speaker Information**

Jiuxin Lin (Tsinghua University); Peng Wang (Xiaomi Inc.); Heinrich Dinkel (Xiaomi); Jun Chen; Zhiyong Wu (Tsinghua University); Zhiyong Yan (xiaomisongguo); Yongqing Wang; Junbo Zhang (Xiaomi); Yujun Wang (Xiaomi AI Lab)

Tue-P10.12 ⌚ 16:00–18:00 **DFSNet: A Steerable Neural Beamformer Invariant to Microphone Array Configuration for Real-Time, Low-Latency Speech Enhancement**

Anton Kovalyov (Electrical and Computer Engineering, University of Texas at Dallas, Richardson, TX, USA); Kashyap Patel (University of Texas at Dallas); Issa Panahi (UTD)

Tue-P10.13 ⌚ 16:00–18:00 **Speaker-Aware Anti-spoofing**

Xuechen Liu (School of Computing, University of Eastern Finland); Md Sahidullah (Institute for Advancing Intelligence, TCG CREST); Kong Aik Lee (Institute for Info-comm Research, A*STAR); Tomi Kinnunen (University of Eastern Finland)

Tue-P10.14 ⌚ 16:00–18:00 **Impact of Residual Noise and Artifacts in Speech Enhancement Errors on Intelligibility of Human and Machine**

Shoko Araki (NTT Corporation); Ayako Yamamoto (Wakayama University); Tsubasa Ochiai; Kenichi Arai; Atsunori Ogawa; Tomohiro Nakatani (NTT Corporation); Toshio Irino (Wakayama University)

Tue-P10.15 ⌚ 16:00–18:00 **EffCRN: An Efficient Convolutional Recurrent Network for High-Performance Speech Enhancement**

Marvin Sach; Jan Franzen (Technische Universität Braunschweig); Bruno Defraene; Kristoff Fluyt (Goodix Technology (Belgium) BV); Maximilian Strake (Technische Universität Braunschweig); Wouter Tirry (Goodix Technology (Belgium) BV); Tim Fingscheidt (Technische Universität Braunschweig)

Tue-P10.16 ⌚ 16:00–18:00 **HAD-ANC: A Hybrid System Comprising an Adaptive Filter and Deep Neural Networks for Active Noise Control**

JungPhil Park; Jeong-Hwan Choi; Yungyeo Kim; Joon-Hyuk Chang (Hanyang University)

Tue-P10.17 ⌚ 16:00–18:00 **MSAF: A Multiple Self-Attention Field Method for Speech Enhancement**

Minghang Chu; Jing Wang; Yaoyao Ma; Zhiwei Fan; Mengtao Yang; Chao Xu; Zhi Tao; Di Wu (Soochow University)

Tue-P10.18 ⌚ 16:00–18:00 **Ultra Dual-Path Compression For Joint Echo Cancellation And Noise Suppression**

Hangting Chen (Tencent AI Lab, ASSP Oteam); Jianwei Yu; Yi Luo (Tencent AI Lab); Rongzhi Gu; Weihua

Li; Zhuocheng Lu (Tencent AI Lab, ASSP Oteam); Chao Weng (Tencent AI Lab)

Tue-P10.19 🕒 16:00–18:00 **ABC-KD: Attention-Based-Compression Knowledge Distillation for Deep Learning-Based Noise Suppression**

Yixin Wan (University of California, Los Angeles); Yuan Zhou; Xiulian Peng (Microsoft Research Asia); Kai-Wei Chang (UCLA); Yan Lu (Microsoft Research Asia)

Tue-P10.20 🕒 16:00–18:00 **PLCMOS – A Data-driven Non-intrusive Metric for The Evaluation of Packet Loss Concealment Algorithms**

Lorenz Diener (Microsoft); Marju Purin (Microsoft Corp.); Sten Sootla; Ando Saabas (Microsoft); Robert Aichner (IC3); Ross Cutler (Microsoft)

Tue-P11 - Spoken Dialog Systems and Conversational Analysis 2

POSTER 📍 Forum Poster Area 3

📅 Tuesday 22 August 2023 🕒 16:00–18:00
Session chairs : Catharine Oertel

Tue-P11.1 🕒 16:00–18:00 **Relationship between auditory and semantic entrainment using Deep Neural Networks (DNN)**

Jay Kejriwal (Institute of Informatics, Faculty of Informatics and Information Technology, Slovak Technical University Bratislava,); Štefan Beňuš (Slovak Academy of Sciences)

Tue-P11.2 🕒 16:00–18:00 **Unsupervised Auditory and Semantic Entrainment Models with Deep Neural Networks**

Jay Kejriwal (Institute of Informatics, Faculty of Informatics and Information Technology, Slovak Technical University Bratislava,); Štefan Beňuš (Slovak Academy of Sciences); Lina M. Rojas-Barahona (Orange)

Tue-P11.3 🕒 16:00–18:00 **Parsing dialog turns with prosodic features in English**

Elizabeth Nielsen (University of Edinburgh); Mark Steedman (Edinburgh University); Sharon Goldwater (University of Edinburgh)

Tue-P11.4 🕒 16:00–18:00 **Estimation of Listening Response Timing by Generative Model and Parameter Control of Response Substantialness Using Dynamic-Prompt-Tune**

Toshiki Muromachi (Shizuoka University); Yoshinobu Kano (Shizuoka University)

Tue-P11.5 🕒 16:00–18:00 **Parameter Selection for Analyzing Conversations with Autism Spectrum Disorder**

Tahiya Chowdhury; Veronica Romero; Amanda Stent (Davis Institute for Artificial Intelligence, Colby College)

Tue-P11.6 🕒 16:00–18:00 **Efficient Multimodal Neural Networks for Trigger-less Voice Assistants**

Sai Srujana Buddi; Utkarsh Oggy Sarawgi; Tashweena Heeramun; Karan Sawney; Ed Yanosik (Apple); Saravana Rathinam (elbo.ai); Saurabh Adya (Apple)

Tue-P11.7 🕒 16:00–18:00 **Rapid Lexical Alignment to a Conversational Agent**

Rachel Ostrand (IBM Research); Victor S. Ferreira (University of California, San Diego); David Piorkowski (IBM Research AI)

Tue-P11.8 🕒 16:00–18:00 **Multimodal Turn-Taking Model Using Visual Cues for End-of-Utterance Prediction in Spoken Dialogue Systems**

Fuma Kurata; Mao Saeki (Waseda University); Shinya Fujie (Chiba Institute of Technology); Yoichi Matsuyama (Waseda University)

Tue-P11.9 🕒 16:00–18:00 **Audio-Visual Praise Estimation for Conversational Video based on Synchronization-Guided Multimodal Transformer**

Nobukatsu Hojo (NTT Corporation); Saki Mizuno (NTT Computer & Data Science Laboratories); Satoshi Kobashikawa; Ryo Masumura; Mana Ithori; Hiroshi Sato (NTT Corporation); Tomohiro Tanaka (NTT)

Tue-P11.10 🕒 16:00–18:00 **Improving the response timing estimation for spoken dialogue systems by reducing the effect of speech recognition delay**

Jin Sakuma (Waseda University); Shinya Fujie (Chiba Institute of Technology); Huaibo Zhao; Tetsunori Kobayashi (Waseda University)

Tue-P11.11 ⌚ 16:00–18:00 **Focus-attention-enhanced Crossmodal Transformer with Metric Learning for Multimodal Speech Emotion Recognition**

Keulbit Kim (NCSOFT, Yonsei Univ.); Namhyun Cho (NCSOFT)

Tue-P11.12 ⌚ 16:00–18:00 **A Multiple-Teacher Pruning Based Self-Distillation (MT-PSD) Approach to Model Compression for Audio-Visual Wake Word Spotting**

Haotian Wang; Jun Du; Hengshun Zhou (University of Science and Technology of China); Chin-Hui Lee (Georgia Institute of Technology); Yuling Ren (China Mobile Online Services Company Limited); Jiangjiang Zhao (chinamobile)

Tue-P11.13 ⌚ 16:00–18:00 **Abusive Speech Detection in Indic Languages Using Acoustic Features**

Anika A. Spiesberger; Andreas Triantafyllopoulos; Iosif Tsangko; Björn W. Schuller (University of Augsburg)

Tue-P11.14 ⌚ 16:00–18:00 **Listening To Silences In Contact Center Conversations Using Textual Cues**

Digvijay Anil Ingle; Ayush Kumar; Jithendra Vepa (Observe.AI)

Tue-P11.15 ⌚ 16:00–18:00 **I Learned Error, I Can Fix It! : A Detector-Corrector Structure for ASR Error Calibration**

Heui-Yeen Yeen; Min-Ju Kim; Myoung-Wan Koo (Sogang University)

Tue-P11.16 ⌚ 16:00–18:00 **Verbal and nonverbal feedback signals in response to increasing levels of miscommunication**

Maeva Garnier; Eric Le Ferrand (GIPSA-lab); Fabien Ringeval (Université Grenoble Alpes)

Tue-P11.17 ⌚ 16:00–18:00 **Speech-Based Classification of Defensive Communication: A Novel Dataset and Results**

Shahin Amiriparian; Lukas Christ; Regina Kushtanova; Maurice Gerczuk (University of Augsburg); Alexandra Teynor (Augsburg University of Applied Sciences); Björn W. Schuller (University of Augsburg)

Tue-P11.18 ⌚ 16:00–18:00 **Quantifying the perceptual value of lexical and non-lexical channels in speech**

Sarenne Wallbridge; Peter Bell; Catherine Lai (University of Edinburgh)

Tue-P11.19 ⌚ 16:00–18:00 **Relationships Between Gender, Personality Traits and Features of Multi-Modal Data to Responses to Spoken Dialog Systems Breakdown**

Kazuya Tsubokura; Yurie Iribe (Aichi Prefectural University); Norihide Kitaoka (Toyoashi University of Technology)

Tue-P11.20 ⌚ 16:00–18:00 **Speaker-aware Cross-modal Fusion Architecture for Conversational Emotion Recognition**

Huan Zhao (Hunan University); Bo Li (HNU); Zixing Zhang (Hunan University)

Tue-P12 - Phonetics, Phonology, and Prosody 1

POSTER 📍 Forum Poster Area 4

📅 Tuesday 22 August 2023 ⌚ 16:00–18:00
Session chairs : Ann Bradlow

Tue-P12.1 ⌚ 16:00–18:00 **Effects of Meter, Genre and Experience on Pausing, Lengthening and Prosodic Phrasing in German Poetry Reading**

Petra Wagner (Bielefeld University); Simon Betz (Bielefeld University)

Tue-P12.2 ⌚ 16:00–18:00 **Comparing first spectral moment of Australian English /s/ between straight and gay voices using three analysis window sizes**

Tünde Szalay; John Holik; Duy Duong Nguyen; James Morandini; Catherine J. Madill (The University of Sydney)

Tue-P12.3 ⌚ 16:00–18:00 **Universal Automatic Phonetic Transcription into the International Phonetic Alphabet**

Chihiro Taguchi (University of Notre Dame); Yusuke Sakai (Nara Institute of Science and Technology); Parisa Haghani (Google); David Chiang (University of Notre Dame)

Tue-P12.4 ⌚ 16:00–18:00 **Voice Twins: Discovering Extremely Similar-sounding, Unrelated Speakers**

Linda Gerlach; Kirsty McDougall (University of Cambridge); Finian Kelly; Anil Alexander (Oxford Wave Research)

Tue-P12.5 ⌚ 16:00–18:00 **Filling the population statistics gap: Swiss German reference data on F0 and speech tempo for forensic contexts**

Hannah Hedegard (Universität Bern); Andrea Fröhlich (Zurich Forensic Science Institute); Fabian Tomaschek (Universität Tübingen); Carina Steiner; Adrian Leemann (Universität Bern)

Tue-P12.6 ⌚ 16:00–18:00 **Investigating the Syntax-Discourse Interface in the Phonetic Implementation of Discourse Markers**

Mathilde Hutin (FNRS, Université Catholique de Louvain); Liesbeth Degand (Institute for Language and Communication); Marc Allasonnière-Tang (CNRS)

Tue-P12.7 ⌚ 16:00–18:00 **Evaluation of a Forensic Automatic Speaker Recognition System with Emotional Speech Recordings**

Robert Essery; Philip Harrison; Vincent Hughes (University of York)

Tue-P12.8 ⌚ 16:00–18:00 **An Outlier Analysis of Vowel Formants from a Corpus Phonetics Pipeline**

Emily P. Ahn; Gina-Anne Levow; Richard A. Wright (University of Washington); Eleanor Chodroff (University of Zurich)

Tue-P12.9 ⌚ 16:00–18:00 **The Hidden Dance of Phonemes and Visage: Unveiling the Enigmatic Link between Phonemes and Facial Features**

Liao Qu; Xianwei Zou; Xiang Li (Carnegie Mellon University); Yandong Wen (Max Planck Institute for Intelligent Systems); Rita Singh; Bhiksha Raj (Carnegie Mellon University)

Tue-P12.10 ⌚ 16:00–18:00 **Beatboxing Kick Drum Kinematics**

Reed Blaylock (University of Southern California); Shrikanth Narayanan (University of Southern California)

Tue-P12.11 ⌚ 16:00–18:00 **Effects of hearing loss and amplification on Mandarin consonant perception**

Huali Zhou (Shenzhen University); Xianming Bei (Guangdong University of Foreign Studies); Nengheng Zheng (Shenzhen University); Qinglin Meng (South China University of Technology)

Tue-P12.12 ⌚ 16:00–18:00 **An Acoustic Analysis of Fricative Variation in Three Accents of English**

Roland Adams (University of Cambridge); Calbert Graham (University of Cambridge)

Tue-P12.13 ⌚ 16:00–18:00 **Acoustic cues to stress perception in Spanish – a mismatch negativity study**

Karolina Broś (University of Warsaw)

Tue-P12.14 ⌚ 16:00–18:00 **Bulgarian Unstressed Vowel Reduction: Received Views vs Corpus Findings**

Mitko Sabev; Bistra Andreeva (Saarland University); Christoph Gabriel; Jonas Gruenke (Johannes Gutenberg University Mainz)

Tue-P12.15 ⌚ 16:00–18:00 **An Investigation of Indian Native Language Phonemic Influences on L2 English Pronunciations**

Shelly Jain (International Institute of Information Technology, Hyderabad); Priyanshi Pal (Indian Institute of Science); Anil Kumar Vuppala (International Institute of Information Technology Hyderabad); Prasanta Kumar Ghosh (Indian Institute of Science); Chiranjeevi Yarra (International Institute of Information Technology Hyderabad)

Tue-P12.16 ⌚ 16:00–18:00 **Identifying Stable Sections for Formant Frequency Extraction**

of French Nasal Vowels Based on Difference Thresholds

Hye-Sook Park (Seoul National University); Sunhee Kim (Seoul National University)

Tue-P12.17 ⌚ 16:00–18:00 **Evaluation of delexicalization methods for research on emotional speech**

Nicolas Audibert (Laboratoire de Phonétique et Phonologie); Francesca Carbone; Maud Champagne-Lavau (Aix-Marseille University); Aurélien Said Housseini (Sorbonne Nouvelle); Caterina Petrone (LPL)

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Debate - Keynote Discussion Panel: End-to-end Models - Friend or Foe of Speech Research

PANEL 📍 The Auditorium

📅 Wednesday 23 August 2023 ⌚
08:30–09:30 **Session chairs** : Roger Moore

Wed-O1 - Analysis of Neural Speech Representations

ORAL 📍 The Auditorium

📅 Wednesday 23 August 2023 ⌚
10:00–12:00 **Session chairs** : Petr Motlicek,
Odette Scharenborg

Wed-O1.1 ⌚ 10:00–10:20 **Speech Self-Supervised Representation Benchmarking: Are We Doing it Right?**

Salah Zaiem (Telecom Paris); Youcef Kemiche (Capgemini); Titouan Parcollet (Samsung AI Cambridge / University of Cambridge); Slim Essid (Institut Polytechnique de Paris); Mirco Ravanelli (Université de Montréal)

Wed-O1.2 ⌚ 10:20–10:40 **An extension of disentanglement metrics and its application to voice**

Olivier Zhang; Olivier Le Blouch; Nicolas Gengembre (Orange Labs); Damien Lolive (Univ Rennes, CNRS, IRISA)

Wed-O1.3 ⌚ 10:40–11:00 **An Information-Theoretic Analysis of Self-supervised Discrete Representations of Speech**

Badr M. Abdullah; Mohammed Maqsood Shaik; Bernd Möbius; Dietrich Klakow (Saarland University)

Wed-O1.4 ⌚ 11:00–11:20 **SpeechGLUE: How Well Can Self-Supervised Speech Models Capture Linguistic Knowledge?**

Takanori Ashihara (NTT Corp.); Takafumi Moriya; Kohei Matsuura; Tomohiro Tanaka (NTT); Yusuke Ijima (NTT Corporation); Taichi Asami; Marc Delcroix (NTT); Yukinori Honma (NTT Corporation)

Wed-O1.5 ⌚ 11:20–11:40 **Comparison of GIF-**

and SSL-based Features in Pathological-voice Detection

Akira Sasou (AIST); Yang Chen (AIST)

Wed-O1.6 ⌚ 11:40–12:00 **What is Learnt by the LEarnable Front-end (LEAF)? Adapting Per-Channel Energy Normalisation (PCEN) to Noisy Conditions**

Hanyu Meng (The Univeristy of New South Wales); Vidhyasaharan Sethu (University of New South Wales); Eliathamby Ambikairajah (The University of New South Wales)

Wed-O2 - End-to-end ASR

ORAL 📍 Wicklow Hall 2

📅 Wednesday 23 August 2023 ⌚
10:00–12:00 **Session chairs** : Abeer Alwan,
Niko Moritz

Wed-O2.1 ⌚ 10:00–10:20 **End-to-End Joint Target and Non-Target Speakers ASR**

Ryo Masumura (NTT Corporation); Naoki Makishima (NTT); Taiga Yamane; Yoshihiko Yamazaki (NTT Corporation); Saki Mizuno (NTT Computer & Data Science Laboratories); Mana Ihori; Mihiro Uchida; Keita Suzuki; Hiroshi Sato (NTT Corporation); Tomohiro Tanaka; Akihiko Takashima (NTT); Satoshi Suzuki (NTT Computer and Data Science Laboratories / The University of Electro-Communications); Takafumi Moriya (NTT); Nobukatsu Hojo; Atsushi Ando (NTT Corporation)

Wed-O2.2 ⌚ 10:20–10:40 **Improving Frame-level Classifier for Word Timings with Non-peaky CTC in End-to-End Automatic Speech Recognition**

Xianzhao Chen (Bytedance); Yist Y. Lin (ByteDance AI-Lab); Kang Wang; Yi He; Zejun Ma (Bytedance)

Wed-O2.3 ⌚ 10:40–11:00 **Joint Autoregressive Modeling of End-to-End Multi-Talker Overlapped Speech Recognition and Utterance-level Timestamp Prediction**

Naoki Makishima (NTT); Keita Suzuki (NTT Corporation); Satoshi Suzuki (NTT Computer and Data Science Laboratories / The University of Electro-Communications); Atsushi Ando; Ryo Masumura (NTT Corporation)

Wed-O2.4 ⌚ 11:00–11:20 **Dual-Path Style**

Learning for End-to-End Noise-Robust Speech Recognition

Yuchen Hu; Nana Hou; Chen Chen; Eng Siong Chng (Nanyang Technological University)

Wed-O2.5 11:20–11:40 Multi-pass Training and Cross-information Fusion for Low-resource End-to-end Accented Speech Recognition

Xuefei Wang; Yanhua Long (Shanghai Normal University); Yijie Li (Unisound AI Technology Co., Ltd.); Haoran Wei (University of Texas at Dallas)

Wed-O2.6 11:40–12:00 Text-only domain adaptation for end-to-end ASR using integrated text-to-mel-spectrogram generator

Vladimir Bataev; Roman Korostik; Evgeny Shabalin; Vitaly Lavrukhin; Boris Ginsburg (NVIDIA)

Wed-O3 - Speech Coding: Privacy

ORAL 📍 Liffey Hall 2

📅 Wednesday 23 August 2023 10:00–12:00 **Session chairs : Gernot Kubin, Jennifer Williams**

Wed-O3.1 10:00–10:20 Masking Kernel for Learning Energy-Efficient Representations for Speaker Recognition and Mobile Health

Apiwat Ditthapron; Emmanuel O. Agu; Adam C. Lammert (Worcester Polytechnic Institute)

Wed-O3.2 10:20–10:40 eSTImate: A Real-time Speech Transmission Index Estimator With Speech Enhancement Auxiliary Task Using Self-Attention Feature Pyramid Network

Bajian Xiang (Yóusonic Technology); Hongkun Liu (YouSonic.AI); Zedong Wu; Su Shen; Xiangdong Zhang (Yóusonic Technology)

Wed-O3.3 10:40–11:00 Efficient Encoder-Decoder and Dual-Path Conformer for Comprehensive Feature Learning in Speech Enhancement

Junyu Wang (Sichuan University)

Wed-O3.4 11:00–11:20 Privacy-preserving Representation Learning for Speech Understanding

Minh Tran (University of Southern California); Mohammad Soleymani (University of Southern California)

Wed-O3.5 11:20–11:40 Vocoder drift in x-vector-based speaker anonymization

Michele Panariello; Massimiliano Todisco; Nicholas Evans (EURECOM)

Wed-O3.6 11:40–12:00 Malafide: a novel adversarial convolutive noise attack against deepfake and spoofing detection systems

Michele Panariello; Wanying Ge; Hemlata Tak; Massimiliano Todisco; Nicholas Evans (EURECOM)

Wed-O4 - Spoken Language Understanding, Summarization, and Information Retrieval

ORAL 📍 Liffey Hall 1

📅 Wednesday 23 August 2023 10:00–12:00 **Session chairs : Nancy Chen, Sakriani Sakti**

Wed-O4.1 10:00–10:20 Leveraging Pre-trained ASR Encoders for Effective and Efficient End-to-End Speech Intent Classification and Slot Filling

He Huang; Jagadeesh Balam; Boris Ginsburg (NVIDIA)

Wed-O4.2 10:20–10:40 Relation-based Counterfactual Data Augmentation and Contrastive Learning for Robustifying Natural Language Inference Models

Heerin Yang (Sogang University); Seung-won Hwang (Seoul National University); Jungmin So (Sogang University)

Wed-O4.3 10:40–11:00 Transfer Learning from Pre-trained Language Models Improves End-to-End Speech Summarization

Kohei Matsuura (NTT); Takanori Ashihara (NTT Corp.); Takafumi Moriya; Tomohiro Tanaka (NTT); Takatomo Kano; Atsunori Ogawa (NTT Corporation); Marc Delcroix (NTT)

Wed-O4.4 🕒 11:00–11:20 **Audio Retrieval with WavText5K and CLAP Training**

Soham Deshmukh; Benjamin Elizalde; Huaming Wang (Microsoft)

Wed-O4.5 🕒 11:20–11:40 **Sequence-Level Knowledge Distillation for Class-Incremental End-to-End Spoken Language Understanding**

Umberto Cappellazzo (University of Trento); Muqiao Yang (Carnegie Mellon University); Daniele Falavigna; Alessio Brutti (FBK)

Wed-O4.6 🕒 11:40–12:00 **Contrastive Disentangled Learning for Memory-Augmented Transformer**

Jen-Tzung Chien (National Yang Ming Chiao Tung University); Shang-En Li (National Yang Ming Chiao Tung University)

Wed-O5 - Speech Synthesis: Representation Learning

ORAL 📍 Wicklow Hall 1

📅 Wednesday 23 August 2023 🕒 10:00–12:00 **Session chairs** : Rob Clark, Zhizheng Wu

Wed-O5.1 🕒 10:00–10:20 **Adversarial Learning of Intermediate Acoustic Feature for End-to-End Lightweight Text-to-Speech**

Hyungchan Yoon; Seyun Um (yonsei university); Changwan Kim (Yonsei University, Hyundai Motor Company); Hong-Goo Kang (Yonsei University)

Wed-O5.2 🕒 10:20–10:40 **Adapter-Based Extension of Multi-Speaker Text-To-Speech Model for New Speakers**

Cheng-Ping Hsieh (UCSD); Subhankar Ghosh; Boris Ginsburg (NVIDIA)

Wed-O5.3 🕒 10:40–11:00 **SALTTS: Leveraging Self-Supervised Speech Representations for improved Text-to-Speech Synthesis**

Ramanan Sivaguru; Vasista Sai Lodagala (Indian Institute of Technology, Madras); S Umesh (IIT Chennai)

Wed-O5.4 🕒 11:00–11:20 **UnitSpeech: Speaker-adaptive Speech Synthesis with Untranscribed Data**

Heeseung Kim; Sungwon Kim; Jiheum Yeom; Sungroh Yoon (Seoul National University)

Wed-O5.5 🕒 11:20–11:40 **LightVoc: An Upsampling-Free GAN Vocoder Based On Conformer And Inverse Short-time Fourier Transform**

Dinh Son Dang; Tung Lam Nguyen (Viettel Cyberspace Center, Viettel Group); Bao Thang Ta (Viettel Cyberspace Center); Tien Thanh Nguyen; Thi Ngoc Anh Nguyen; Dang Linh Le (Viettel Cyberspace Center, Viettel Group); Nhat Minh Le (Viettel Cyberspace Center); Van Hai Do (Viettel Cyberspace Center, Viettel Group)

Wed-O5.6 🕒 11:40–12:00 **ChatGPT-EDSS: Empathetic Dialogue Speech Synthesis Trained from ChatGPT-derived Context Word Embeddings**

Yuki Saito (The University of Tokyo, Japan); Shinnosuke Takamichi; Eiji Iimori (The University of Tokyo); Kentaro Tachibana (LINE Corp.); Hiroshi Saruwatari (The University of Tokyo)

Wed-O6 - Pathological Speech Analysis 2

ORAL 📍 EcoCem Room

📅 Wednesday 23 August 2023 🕒 10:00–12:00 **Session chairs** : Alberto Abad, Nan Yan

Wed-O6.1 🕒 10:00–10:20 **A Pipeline to Evaluate the Effects of Noise on Machine Learning Detection of Laryngeal Cancer**

Mary Paterson (University of Leeds); James Moor (Leeds Teaching Hospitals NHS Trust); Luisa Cutillo (University of Leeds)

Wed-O6.2 🕒 10:20–10:40 **ReCLR: Reference-Enhanced Contrastive Learning of Audio Representation for Depression Detection**

Pingyue Zhang; Mengyue Wu; Kai Yu (Shanghai Jiao Tong University)

Wed-O6.3 ⌚ 10:40–11:00 **Automated Multiple Sclerosis Screening Based on Encoded Speech Representations**

José Egas-López (University of Szeged - MTA-SZTE Research Group on AI); Veronika Svindt (ELRN); Judit Bóna (ELTE Eötvös Loránd University); Ildikó Hoffmann (ELRN); Gábor Gosztolya (MTA-SZTE Research Group on AI)

Wed-O6.4 ⌚ 11:00–11:20 **Cross-Lingual Features for Alzheimer's Dementia Detection from Speech**

Thomas Melistas (Behavioral Signals); Lefteris Kapelonis (Behavioral Signal Technologies); Nikos Antoniou (National Technical University of Athens); Petros Mitseas (Behavioral Signal Technologies); Dimitris Sgouropoulos (Behavioral Signals); Theodoros Giannakopoulos; Athanasios Katsamanis; Shrikanth Narayanan (Behavioral Signal Technologies Inc.)

Wed-O6.5 ⌚ 11:20–11:40 **Careful Whisper - leveraging advances in automatic speech recognition for robust and interpretable aphasia subtype classification**

Mario Zusag; Laurin Wagner; Theresa Bloder (myReha GmbH)

Wed-O6.6 ⌚ 11:40–12:00 **Behavioral Analysis of Pathological Speaker Embeddings of Patients During Oncological Treatment of Oral Cancer**

Jenthe Thienpondt (IDLab, Ghent University); Caroline M. Speksnijder (UMC Utrecht, Utrecht University); Kris Demuyne (IDLab, Ghent University)

Wed-P1 - Speech Recognition: Architecture, Search, and Linguistic Components 3

POSTER 📍 Forum Poster Area 1

📅 Wednesday 23 August 2023 ⌚ 10:00–12:00 **Session chairs** : David Harwath

Wed-P1.1 ⌚ 10:00–12:00 **A Model for Every User and Budget: Label-Free and Personalized Mixed-Precision Quantization**

Edward Fish (University of Surrey); Umberto Michieli; Mete Ozay (Samsung Research UK)

Wed-P1.2 ⌚ 10:00–12:00 **Modeling Dependent Structure for Utterances in ASR Evaluation**

Zhe Liu (Meta); Fuchun Peng (Facebook)

Wed-P1.3 ⌚ 10:00–12:00 **ASR for Low Resource and Multilingual Noisy Code-Mixed Speech**

Tushar Verma; Atul Shree (Convin.AI); Ashutosh Modi (IIT Kanpur)

Wed-P1.4 ⌚ 10:00–12:00 **Accurate and Reliable Confidence Estimation Based on Non-Autoregressive End-to-End Speech Recognition System**

Xian Shi; Haoneng Luo; Zhifu Gao; Shiliang Zhang (Alibaba Group); Zhijie Yan (Alibaba Inc.)

Wed-P1.5 ⌚ 10:00–12:00 **Combining Multilingual Resources and Models to Develop State-of-the-Art E2E ASR for Swedish**

Lukas Mateju; Jan Nouza; Petr Červa; Jindrich Zdansky; Frantisek Kynych (Technical University of Liberec)

Wed-P1.6 ⌚ 10:00–12:00 **Two Stage Contextual Word Filtering for Context Bias in Unified Streaming and Non-streaming Transducer**

Zhanheng Yang (Northwestern Polytechnical University); Sining Sun (Duxiaoman); Xiong Wang (Tencent); Yike Zhang; Long Ma (Tencent Technology Co.); Lei Xie (NWPU)

Wed-P1.7 ⌚ 10:00–12:00 **Towards continually learning new languages**

Quan Pham; Jan Niehues (Karlsruhe Institute of Technology); Alex Waibel (Carnegie Mellon University)

Wed-P1.8 ⌚ 10:00–12:00 **N-best T5: Robust ASR Error Correction using Multiple Input Hypotheses and Constrained Decoding Space**

Rao Ma; Mark J. F. Gales; Kate M. Knill (University of Cambridge); Mengjie Qian (Cambridge University)

Wed-P1.9 ⌚ 10:00–12:00

SememeASR: Boosting Performance of End-to-End Speech Recognition against Domain and Long-Tailed Data Shift with Sememe Semantic Knowledge

Jiaxu Zhu; Changhe Song; Zhiyong Wu (Tsinghua University); Helen Meng (The Chinese University of Hong Kong)

Wed-P1.10 ⌚ 10:00–12:00

miniStreamer: Enhancing Small Conformer with Chunked-Context Masking for Streaming ASR Applications on the Edge

Haris Gulzar (NTT Software Innovation Center); Monikka Roslianna Busto; Takeharu Eda (NTT); Katsutoshi Itoyama; Kazuhiro Nakadai (Tokyo Institute of Technology)

Wed-P1.11 ⌚ 10:00–12:00

CoMFLP: Correlation Measure Based Fast Search on ASR Layer Pruning

Wei Liu (The Chinese University of Hong Kong); Zhiyuan Peng (CUHK); Tan Lee (The Chinese University of Hong Kong)

Wed-P1.12 ⌚ 10:00–12:00

Exploration on HuBERT with Multiple Resolution

Jiatong Shi (Carnegie Mellon University); Yun Tang (Facebook); Hirofumi Inaguma (Meta); Hongyu Gong (Meta AI); Juan Pino (Meta); Shinji Watanabe (Carnegie Mellon University)

Wed-P1.13 ⌚ 10:00–12:00

Quantization-aware and Tensor-compressed Training of Transformers for Natural Language Understanding

Zi Yang (UC Santa Barbara); Samridhi Choudhary; Siegfried Kunzmann (Amazon); Zheng Zhang (UC Santa Barbara)

Wed-P1.14 ⌚ 10:00–12:00

Word-level Confidence Estimation for CTC Models

Burin Naowarat; Thananchai Kongthaworn; Ekapol Chuangsuwanich (Chulalongkorn University)

Wed-P1.15 ⌚ 10:00–12:00

Multilingual Contextual Adapters To Improve Custom Word Recognition In Low-resource Languages

Devang Kulshreshtha; Saket Dingliwal (Amazon); Brady Houston (AWS AI Labs); Sravan Bodapati (Amazon)

Wed-P1.16 ⌚ 10:00–12:00

Unsupervised Active Learning: Optimizing Labeling Cost-Effectiveness for Automatic Speech Recognition

Zhisheng Zheng; Ziyang Ma; Yu Wang (Shanghai Jiao Tong University); Xie Chen (Shanghai Jiaotong University)

Wed-P1.17 ⌚ 10:00–12:00

4D ASR: Joint modeling of CTC, Attention, Transducer, and Mask-Predict decoders

Yui Sudo; Shakeel Muhammad (Honda Research Institute Japan); Brian Yan; Jiatong Shi; Shinji Watanabe (Carnegie Mellon University)

Wed-P1.18 ⌚ 10:00–12:00

Neural Model Reprogramming with Similarity Based Mapping for Low-Resource Spoken Command Recognition

Hao Yen; Pin-Jui Ku; Chao-Han Huck Yang; Hu Hu (Georgia Institute of Technology); Sabato Marco Siniscalchi (Kore University of Enna); Pin-Yu Chen (IBM Research AI); Yu Tsao (Academia Sinica)

Wed-P1.19 ⌚ 10:00–12:00

Language-specific Boundary Learning for Improving Mandarin-English Code-switching Speech Recognition

Zhiyun Fan (Bytedance AI LAB); Linhao Dong; Chen Shen (Bytedance); Zhenlin Liang (Bytedance Research); Jun Zhang; Lu Lu; Zejun Ma (Bytedance)

Wed-P1.20 ⌚ 10:00–12:00

Mixture-of-Expert Conformer for Streaming Multilingual ASR

Ke Hu; Bo Li; Tara Sainath; Yu Zhang; Françoise Beaufays (Google)

Wed-P1.21 ⌚ 10:00–12:00

Lossless 4-bit Quantization of Architecture Compressed Conformer ASR Systems on the 300-hr Switchboard Corpus

Zhaoqing Li (The Chinese University of Hong Kong); Tianzi Wang; Jiajun Deng (The Chinese University of Hong Kong); Junhao Xu (The Chinese University of Hong Kong); Shoukang Hu (Nanyang Technological University); Xunying Liu (The Chinese University of Hong Kong)

Wed-P1.22 🕒 10:00–12:00 **Compressed MoE ASR Model Based on Knowledge Distillation and Quantization**

Yuping Yuan (Jilin University); Zhao You; Shulin Feng (Tencent AI Lab); Dan Su (Tencent); Yanchun Liang; Xiaohu Shi (Jilin University); Dong Yu (Tencent)

Wed-P2 - Speaker and Language Identification 2

POSTER 📍 Forum Poster Area 2

📅 Wednesday 23 August 2023 🕒 10:00–12:00 **Session chairs : Jee-weon Jung**

Wed-P2.1 🕒 10:00–12:00 **Reversible Neural Networks for Memory-Efficient Speaker Verification**

Bei Liu (Shanghai Jiao Tong University); Yanmin Qian (Shanghai Jiao Tong University)

Wed-P2.2 🕒 10:00–12:00 **ECAPA++: Fine-grained Deep Embedding Learning for TDNN Based Speaker Verification**

Bei Liu (Shanghai Jiao Tong University); Yanmin Qian (Shanghai Jiao Tong University)

Wed-P2.3 🕒 10:00–12:00 **TO-RawNet: Improving RawNet with TCN and Orthogonal Regularization for Fake Audio Detection**

Chenglong Wang (CASIA); Jiangyan Yi; Jianhua Tao (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences); Chu Yuan Zhang (Chinese Academy of Sciences); Shuai Zhang (School of Artificial Intelligence, University of Chinese Academy of Sciences); Ruibo Fu (National Laboratory of Pattern Recognition, Institute of Automation of the Chinese Academy of Sciences); Xun Chen (University of Science and Technology of China)

Wed-P2.4 🕒 10:00–12:00 **Fooling Speaker Identification Systems with Adversarial Background Music**

Chu-Xiao Zuo; Jia-Yi Leng; Wu-Jun Li (Nanjing University)

Wed-P2.5 🕒 10:00–12:00 **Mutual Information-based Embedding Decoupling for Generalizable Speaker Verification**

Jianchen Li; Jiqing Han (Harbin Institute of Technology); Shiwen Deng (Harbin Normal University); Tieran Zheng; Yongjun He; Guibin Zheng (Harbin Institute of Technology)

Wed-P2.6 🕒 10:00–12:00 **Target Active Speaker Detection with Audio-visual Cues**

Yidi Jiang; Ruijie Tao; Zexu Pan (National University of Singapore); Haizhou Li (The Chinese University of Hong Kong (Shenzhen))

Wed-P2.7 🕒 10:00–12:00 **Improving End-to-End Neural Diarization Using Conversational Summary Representations**

Samuel J. Broughton (Fano Labs); Lahiru Samarakoon (Fano Labs, Hong Kong)

Wed-P2.8 🕒 10:00–12:00 **Phase perturbation improves channel robustness for speech spoofing countermeasures**

Yongyi Zang; You Zhang (University of Rochester); Zhiyao Duan (University of Rochester)

Wed-P2.9 🕒 10:00–12:00 **Improving training datasets for resource-constrained speaker recognition neural networks**

Pierre-Michel Bousquet (Université d'Avignon); Mickael Rouvier (LIA - Avignon University)

Wed-P2.10 🕒 10:00–12:00 **Instance-based Temporal Normalization for Speaker Verification**

Thanathai Lertpetchpun (Chulalongkorn University); Ekapol Chuangsuwanich (Chulalongkorn University)

Wed-P2.11 🕒 10:00–12:00 **On the robustness of wav2vec 2.0 based speaker recognition systems**

Sergey Novoselov; Galina Lavrentyeva; Anastasia Avdeeva; Vladimir Volokhov; Nikita Khmelev; Artem Akulov; Polina Leonteva (ITMO University)

Wed-P2.12 🕒 10:00–12:00 **P-vectors: A Parallel-coupled TDNN/Transformer Network for Speaker Verification**

Xiyuan Wang; Fangyuan Wang; Bo Xu (Institute of Automation, Chinese Academy of Sciences); Liang Xu (GammaLab, PingAn OneConnect); Jing Xiao (Ping An Insurance (Group) Company of China)

Wed-P2.13 ⌚ 10:00–12:00 **Group GMM-ResNet for Detection of Synthetic Speech Attacks**

Zhenchun Lei (School of Computer and Information Engineering, Jiangxi Normal University); Yan Wen; Yingen Yang; Changhong Liu; Minglei Ma (Jiangxi Normal University)

Wed-P2.14 ⌚ 10:00–12:00 **Robust Training for Speaker Verification against Noisy Labels**

Zhihua Fang (Xinjiang University); Liang He (Tsinghua University); Hanhan Ma; Xiaochen Guo (Xinjiang University); Lin Li (Xiamen University)

Wed-P2.15 ⌚ 10:00–12:00 **Self-Distillation into Self-Attention Heads for Improving Transformer-based End-to-End Neural Speaker Diarization**

Ye-Rin Jeoung; Jeong-Hwan Choi; Ju-Seok Seong; Je-hyun Kyung; Joon-Hyuk Chang (Hanyang University)

Wed-P2.16 ⌚ 10:00–12:00 **Build a SRE Challenge System: Lessons from VoxSRC 2022 and CNSRC 2022**

Zhengyang Chen; Bing Han (Shanghai Jiao Tong University); Xu Xiang; Houjun Huang (AISpeech Ltd); Bei Liu; Yanmin Qian (Shanghai Jiao Tong University)

Wed-P2.17 ⌚ 10:00–12:00 **Describing the phonetics in the underlying speech attributes for deep and interpretable speaker recognition**

Imen Ben-Amor (Université d'Avignon); Jean-François Bonastre (Université d'Avignon); Benjamin O'Brien; Pierre-Michel Bousquet (Université d'Avignon)

Wed-P2.18 ⌚ 10:00–12:00 **Range-Based Equal Error Rate for Spoof Localization**

Lin Zhang; Xin Wang; Erica Cooper (National Institute of Informatics); Nicholas Evans (EURECOM); Junichi Yamagishi (National Institute of Informatics)

Wed-P2.19 ⌚ 10:00–12:00 **Exploring the English Accent-independent Features for Speech Emotion Recognition using Filter and Wrapper-based Methods for Feature Selection**

Nowshin Tabassum (Islamic University of Technology); Tasfia Tabassum (IUT); Fardin Saad; Tahiya Sultana Safa (Islamic University of Technology); Hasan Mahmud; Md. Kamrul Hasan (IUT)

Wed-P2.20 ⌚ 10:00–12:00 **Powerset multi-class cross entropy loss for neural speaker diarization**

Alexis Plaquet (IRIT); Hervé Bredin (CNRS)

Wed-P2.21 ⌚ 10:00–12:00 **A Method of Audio-Visual Person Verification by Mining Connections between Time Series**

Peiwen Sun (Beijing University of Posts and Telecommunications); Shanshan Zhang (Tencent Research); Zishan Liu (Beijing University of Posts and Telecommunications); Yougen Yuan; Taotao Zhang (Tencent Inc); Honggang Zhang (Beijing University of Posts and Telecommunications); Pengfei Hu (Tencent Inc)

Wed-P3 - Speech Perception, Production, and Acquisition 1

POSTER

📍 Forum Poster Area 3

📅 Wednesday 23 August 2023 ⌚ 10:00–12:00 **Session chairs : Maeva Garnier**

Wed-P3.1 ⌚ 10:00–12:00 **Human Transcription Quality Improvement**

Jian Gao; Hanbo Sun; Cheng Cao; Zheng Du (Amazon)

Wed-P3.2 ⌚ 10:00–12:00 **The effect of masking noise on listeners' spectral tilt preferences**

Olympia Simantiraki (Institute of Applied and Computational Mathematics, FORTH); Yannis Pantazis (FORTH); Martin Cooke (Ikerbasque)

Wed-P3.3 ⌚ 10:00–12:00 **The Effect of Whistled Vowels on Whistled Word Categorization for Naive Listeners**

Anais Tran Ngoc (BCL Lab, CNRS, Université Côte d'Azur); Fanny Meunier; Julien Meyer (CNRS)

Wed-P3.4 ⌚ 10:00–12:00 **Automatic Deep Neural Network-Based Segmental Pronunciation Error Detection of L2 English Speech (L1 Bengali)**

Puja Bharati; Sabyasachi Chandra; Shayamal Kumar Das Mandal (Indian Institute of Technology Kharagpur)

Wed-P3.5 ⌚ 10:00–12:00 **The effect of stress on Mandarin tonal perception in continuous speech for Spanish-speaking learners**

Lixia Hao; Qi Gong (Dongguan University of Technology); Jinsong Zhang (Beijing Language and Culture University)

Wed-P3.6 ⌚ 10:00–12:00 **Combining acoustic and aerodynamic data collection: A perceptual evaluation of acoustic distortions**

Amélie Elmerich (Laboratoire de Phonétique et Phonologie); Jiayin Gao (Sorbonne Nouvelle); Angelique Amelot (LPP); Lise Crevier-Buchman; Shinji Maeda (Sorbonne Nouvelle)

Wed-P3.7 ⌚ 10:00–12:00 **Estimating virtual targets for lingual stop consonants using general Tau theory**

Benjamin Elie (University of Edinburgh); Alice Turk (University of)

Wed-P3.8 ⌚ 10:00–12:00 **Using Random Forests to classify language as a function of syllable timing in two groups: children with cochlear implants and with normal hearing**

Mark Gibson (Universidad de Navarra)

Wed-P3.9 ⌚ 10:00–12:00 **An Improved End-to-End Audio-Visual Speech Recognition Model**

Sheng Yang; Zheng Gong; Jia Kang (Inner Mongolia University)

Wed-P3.10 ⌚ 10:00–12:00 **What influences the foreign accent strength? Phonological and grammatical errors in the perception of accentedness**

Sarah Wesolek (Leibniz-Centre General Linguistics, Humboldt-Universität zu Berlin); Piotr Gulowski (Leibniz-Centre General Linguistics, University of Wrocław); Joanna Błaszczak (University of Wrocław); Marzena Żygis (Leibniz-Centre General Linguistics, Humboldt-Universität zu Berlin)

Wed-P3.11 ⌚ 10:00–12:00 **Investigating the Perception Production Link through Perceptual Adaptation and Phonetic Convergence**

Lena-Marie Huttner (Aix-Marseille Université); Noël Nguyen (Aix-Marseille University); Martin J. Pickering (The University of Edinburgh)

Wed-P3.12 ⌚ 10:00–12:00 **Emotion Prompting for Speech Emotion Recognition**

Xingfa Zhou (Sichuan Changhong Electric Co.,Ltd.); Min Li (XINJIANG UNIVERSITY OF FINANCE&ECONOMICS); Lan Yang (Changhong Inc.); Rui Sun (Leshan Normal University); Xin Wang (Southwest Petroleum University); Huayi Zhan (Changhong Inc.)

Wed-P3.13 ⌚ 10:00–12:00 **Speech-in-Speech Recognition is Modulated by Familiarity to Dialect**

Jessica L. L. Chin; Elena Talevska; Mark Antoniou (Western Sydney University)

Wed-P3.14 ⌚ 10:00–12:00 **BASEN: Time-Domain Brain-Assisted Speech Enhancement Network with Convolutional Cross Attention in Multi-talker Conditions**

Jie Zhang (University of Science and Technology of China (USTC)); QingTian Xu (Sichuan University); Qiu-Shi Zhu; Zhen-Hua Ling (University of Science and Technology of China)

Wed-P3.15 ⌚ 10:00–12:00 **Are retroflex-to-dental sibilant substitutions in Polish children's speech an example of a covert contrast? A preliminary acoustic study**

Zuzanna Miodonska (Silesian University of Technology); Claartje Levelt (Leiden University); Natalia Mocko (Silesian University); Michał Kręcichwost; Agata Sage; Pawel Badura (Silesian University of Technology)

Wed-S1 - Invariant and Robust Pre-trained Acoustic Models

SPECIAL 📍 Liffey Meeting Room 2

📅 Wednesday 23 August 2023 ⌚ 10:12–11:36 **Session chairs : Ewan Dunbar, Emmanuel Dupoux**

Wed-S1.WEL ⌚ 10:12–10:26 **Welcome and overview**

Wed-S1.1 ⌚ 10:12–10:26 **ProsAudit, a prosodic benchmark for self-supervised speech models**

Maureen de Seyssel (Cognitive Machine Learning, EHESS, ENS-PSL University, CNRS, INRIA); Marvin Lavechin (ENS, Meta AI); Hadrien Titeux; Arthur Thomas (CoML); Gwendal Virlet (Institut Agro); Andrea Santos Revilla (CoML); Guillaume Wisniewski (Université Paris Cité and LLF); Bogdan Ludusan (Bielefeld University); Emmanuel Dupoux (EHESS, ENS, PSL University, CNRS, INRIA, META)

Wed-S1.2 ⌚ 10:26–10:40 **Self-supervised Predictive Coding Models Encode Speaker and Phonetic Information in Orthogonal Subspaces**

Oli Danyi Liu (University of Edinburgh); Hao Tang (The University of Edinburgh); Sharon Goldwater (University of Edinburgh)

Wed-S1.3 ⌚ 10:40–10:54 **Evaluating context-invariance in unsupervised speech representations**

Mark Hallap (University of Toronto); Emmanuel Dupoux (EHESS, ENS, PSL University, CNRS, INRIA); Ewan Dunbar (University of Toronto)

Wed-S1.4 ⌚ 10:54–11:08 **CoBERT: Self-Supervised Speech Representation Learning Through Code Representation Learning**

Chutong Meng (Johns Hopkins University); Junyi Ao (The Chinese University of Hong Kong (Shenzhen)); Tom Ko; Mingxuan Wang (Bytedance); Haizhou Li (The Chinese University of Hong Kong, Shenzhen)

Wed-S1.5 ⌚ 11:08–11:22 **Self-supervised Fine-tuning for Improved Content Representations by Speaker-invariant Clustering**

Heng-Jui Chang (Massachusetts Institute of Technology); Alexander H. Liu (MIT); James Glass (Massachusetts Institute of Technology)

Wed-S1.6 ⌚ 11:22–11:36 **Self-Supervised Acoustic Word Embedding Learning via Correspondence Transformer Encoder**

Jingru Lin; Xianghu Yue (National University of Singapore); Junyi Ao; Haizhou Li (The Chinese University of Hong Kong (Shenzhen))

Wed-S1.PAN ⌚ 11:22–11:36 **Panel discussion**

Wed-S2 - Multi-talker Methods in Speech Processing

SPECIAL:POSTER 📍 Liffey Meeting Room 2

📅 Wednesday 23 August 2023 ⌚ 13:30–15:30 **Session chairs : Marc Delcroix, Liang Lu**

Wed-S2.1 ⌚ 13:30–15:30 **SEF-Net: Speaker Embedding Free Target Speaker Extraction Network**

Bang Zeng (Wuhan University); Suo Hongbin; Yulong Wan (OPPO); Ming Li (Duke Kunshan University)

Wed-S2.2 ⌚ 13:30–15:30 **Cascaded encoders for fine-tuning ASR models on overlapped speech**

Richard Rose (Google); Oscar Chang (Google); Olivier Siohan (Google Inc.)

Wed-S2.3 ⌚ 13:30–15:30 **TokenSplit: Using Discrete Speech Representations for Direct, Refined, and Transcript-Conditioned Speech Separation and Recognition**

Hakan Erdogan; Scott Wisdom (Google); Xuankai Chang (Carnegie Mellon University); Zalán Borsos; Marco Tagliasacchi; Neil Zeghidour; John R. Hershey (Google)

Wed-S2.4 ⌚ 13:30–15:30 **Unified Modeling of Multi-Talker Overlapped Speech Recognition and Diarization with a Sidecar Separator**

Lingwei Meng; Jiawen Kang; Mingyu Cui (The Chinese University of Hong Kong); Haibin Wu (National Taiwan University); Xixin Wu; Helen Meng (The Chinese University of Hong Kong)

Wed-S2.5 ⌚ 13:30–15:30 **Time-domain Transformer-based Audiovisual Speaker Separation**

Vahid Ahmadi Kalkhorani (The Ohio State University); Anurag Kumar (Meta); Ke Tan (Meta Reality Labs); Buye Xu (Meta Reality Labs Research); DeLiang Wang (The Ohio State University)

Wed-S2.6 🕒 13:30–15:30 **Multi-Stream Extension of Variational Bayesian HMM Clustering (MS-VBx) for Combined End-to-End and Vector Clustering-based Diarization**

Marc Delcroix; Naohiro Tawara (NTT); Mireia Diez; Federico Landini; Anna Silnova (Brno University of Technology); Atsunori Ogawa; Tomohiro Nakatani (NTT Corporation); Lukáš Burget (Brno University of Technology); Shoko Araki (NTT Corporation)

Wed-S2.7 🕒 13:30–15:30 **Unsupervised Adaptation with Quality-Aware Masking to Improve Target-Speaker Voice Activity Detection for Speaker Diarization**

Shutong Niu; Jun Du; Maokui He (University of Science and Technology of China); Chin-Hui Lee (Georgia Institute of Technology); Baoxiang Li (sensesense); Jiakui Li (SenseTime Group Limited)

Wed-S2.8 🕒 13:30–15:30 **BA-SOT: Boundary-Aware Serialized Output Training for Multi-Talker ASR**

Yuhao Liang (Northwestern Polytechnical University); Fan Yu (Alibaba Group); Yangze Li; Pengcheng Guo (Northwestern Polytechnical University); Shiliang Zhang (Alibaba Group); Qian Chen (Speech Lab, DAMO Academy, Alibaba Group); Lei Xie (Northwestern Polytechnical University)

Wed-S2.9 🕒 13:30–15:30 **Improving Label Assignments Learning by Dynamic Sample Dropout Combined with Layer-wise Optimization in Speech Separation**

Chenyang Gao (Rutgers University); Yue Gu (Amazon); Ivan Marsic (Rutgers University)

Wed-S2.10 🕒 13:30–15:30 **Joint compensation of multi-talker noise and reverberation for speech enhancement with cochlear implants using one or more microphones**

Clément Gaultier (University of Cambridge); Tobias Goehring (University of Cambridge)

Wed-S2.11 🕒 13:30–15:30 **Speaker Diarization for ASR Output with T-vectors: A Sequence Classification Approach**

Midia Yousefi; Naoyuki Kanda; Dongmei Wang; Zhuo Chen; Xiaofei Wang; Takuya Yoshioka (Microsoft)

Wed-S2.12 🕒 13:30–15:30 **GPU-accelerated Guided Source Separation for Meeting Transcription**

Desh Raj; Daniel Povey; Sanjeev Khudanpur (Johns Hopkins University)

Wed-S2.13 🕒 13:30–15:30 **Overlap Aware Continuous Speech Separation without Permutation Invariant Training**

Lin Feng Yu; Wangyou Zhang; Chenda Li; Yanmin Qian (Shanghai Jiao Tong University)

Wed-S2.14 🕒 13:30–15:30 **Weakly-Supervised Speech Pre-training: A Case Study on Target Speech Recognition**

Wangyou Zhang (Shanghai Jiao Tong University); Yanmin Qian (Shanghai Jiao Tong University)

Wed-S2.15 🕒 13:30–15:30 **Directional Speech Recognition for Speaker Disambiguation and Cross-talk Suppression**

Ju Lin; Niko Moritz; Ruiming Xie; Kaustubh Kalgaonkar (Meta); Christian Fuegen (Facebook); Frank Seide (Meta)

Wed-S2.16 🕒 13:30–15:30 **Mixture Encoder for Joint Speech Separation and Recognition**

Simon Berger; Peter Vieting (RWTH Aachen University); Christoph Boeddeker (Paderborn University); Ralf Schlüter (RWTH Aachen University); Reinhold Haeb-Umbach (Paderborn University)

Wed-O7 - Acoustic Model Adaptation for ASR

ORAL

📍 The Auditorium

📅 Wednesday 23 August 2023 🕒 13:30–15:30 **Session chairs** : Mark Gales, Jinyu Li

Wed-O7.1 🕒 13:30–13:50 **Factorised Speaker-environment Adaptive Training of Conformer Speech Recognition Systems**

Jiajun Deng (The Chinese University of HongKong); Guinan Li (Chinese University of HongKong); Xurong Xie (Institute of Software, Chinese Academy of Sciences); Zengrui Jin; Mingyu Cui (The Chinese University of HongKong)

Hong Kong); Tianzi Wang (The Chinese University of Hong Kong); Shujie Hu; Mengzhe Geng; Xunying Liu (The Chinese University of Hong Kong)

Wed-07.2 ⌚ 13:50–14:10 **Text Only Domain Adaptation with Phoneme Guided Data Splicing for End-to-End Speech Recognition**

Wei Wang (Shanghai Jiao Tong University); Xun Gong (Shanghai Jiaotong University); Hang Shao; Dongning Yang; Yanmin Qian (Shanghai Jiao Tong University)

Wed-07.3 ⌚ 14:10–14:30 **Cross-Lingual Cross-Age Adaptation for Low-Resource Elderly Speech Emotion Recognition**

Samuel Cahyawijaya (HKUST); Holy Lovenia; Willy Chung (The Hong Kong University of Science and Technology); Rita Frieske (Hong Kong University of Science and Technology); Zihan Liu (The Hong Kong University of Science and Technology); Pascale Fung (Hong Kong University of Science and Technology)

Wed-07.4 ⌚ 14:30–14:50 **Modular Domain Adaptation for Conformer-Based Streaming ASR**

Qiuqia Li; Bo Li; Dongseong Hwang; Tara Sainath; Pedro M. Mengibar (Google)

Wed-07.5 ⌚ 14:50–15:10 **Don't Stop Self-Supervision: Accent Adaptation of Speech Representations via Residual Adapters**

Anshu Bhatia (Amazon); Sanchit Sinha (University of Virginia); Saket Dingliwal (Amazon); Karthik Gopalakrishnan (Amazon Alexa AI); Sravan Bodapati; Katrin Kirchhoff (Amazon)

Wed-07.6 ⌚ 15:10–15:30 **SGEM: Test-Time Adaptation for Automatic Speech Recognition via Sequential-Level Generalized Entropy Minimization**

Changhun Kim; Joonhyung Park; Hajin Shim; Eunho Yang (KAIST)

Wed-08 - Speech Synthesis: Expressivity

ORAL 📍 Wicklow Hall 2

📅 Wednesday 23 August 2023 ⌚ 13:30–15:30 **Session chairs : Catherine Lai, Berrak Sisman**

Wed-08.1 ⌚ 13:30–14:10 - Survey Talk

Realising the potential of modern speech synthesis for prosodic research

Zofia Malisz

Wed-08.3 ⌚ 14:10–14:30 **A Generative Framework for Conversational Laughter: Its 'Language Model' and Laughter Sound Synthesis**

Hiroki Mori (Utsunomiya University); Shunya Kimura (Utsunomiya University)

Wed-08.4 ⌚ 14:30–14:50 **Towards Spontaneous Style Modeling with Semi-supervised Pre-training for Conversational Text-to-Speech Synthesis**

Weiqin Li; Shun Lei; Qiaochu Huang; Yixuan Zhou; Zhiyong Wu (Tsinghua University); Shiyin Kang (XVerse Inc.); Helen Meng (The Chinese University of Hong Kong)

Wed-08.5 ⌚ 14:50–15:10 **Beyond Style: Synthesizing Speech with Pragmatic Functions**

Harm Lameris; Joakim Gustafson; Éva Székely (KTH Royal Institute of Technology)

Wed-08.6 ⌚ 15:10–15:30 **eCat: An End-to-End Model for Multi-Speaker TTS & Many-to-Many Fine-Grained Prosody Transfer**

Ammar Abbas (Amazon); Sri Karlapati (Amazon Research); Bastian Schnell; Penny Karanasou (Amazon); Marcel Granero Moya (EPFL); Amith Nagaraj (Alexa AI); Ayman Boustati (causaLens); Nicole Peinelt (Alexa AI); Alexis Moinet (Amazon); Thomas Drugman (Alexa AI)

Wed-09 - Multi-modal Systems

ORAL 📍 Liffey Hall 2

📅 Wednesday 23 August 2023 ⌚ 13:30–15:30 **Session chairs : Naomi Harte, Chiori Hori**

Wed-09.1 ⌚ 13:30–13:50 **BeAts: Bengali Speech Acts Recognition using Multimodal Attention Fusion**

Ahana Deb (Jadavpur University); Sayan Nag (University of Toronto); Ayan Mahapatra; Soumitri Chattopadhyay; Aritra Marik; Pijush Kanti Gayen; Shankha Sanyal

(Jadavpur University); Archi Banerjee (Indian Institute of Technology Kharagpur, India); Samir Karmakar (Jadavpur University)

Wed-O9.2 🕒 13:50–14:10 **Improving the Gap in Visual Speech Recognition Between Normal and Silent Speech Based on Metric Learning**

Sara Kashiwagi; Keitaro Tanaka; Qi Feng (Waseda University); Shigeo Morishima (Waseda Research Institute for Science and Engineering)

Wed-O9.3 🕒 14:10–14:30 **Whistle-to-text: Automatic recognition of the Silbo Gomero whistled language**

Agata Jakubiak (University of Warsaw)

Wed-O9.4 🕒 14:30–14:50 **A Novel Interpretable and Generalizable Resynchronization Model for Cued Speech based on a Multi-Cuer Corpus**

Lufei Gao; Shan Huang (Shenzhen Research Institute of Big Data); Li Liu (The Hong Kong University of Science and Technology (Guangzhou))

Wed-O9.5 🕒 14:50–15:10 **Visually grounded few-shot word acquisition with fewer shots**

Leanne Nortje (Stellenbosch University); Benjamin van Niekerk (Stellenbosch); Herman Kamper (Stellenbosch University)

Wed-O9.6 🕒 15:10–15:30 **JAMFN: Joint Attention Multi-Scale Fusion Network for Depression Detection**

Li Zhou; Zhenyu Liu; Zixuan Shanguan; Xiaoyan Yuan; Yutong Li; Bin Hu (Lanzhou University)

Wed-O10 - Question Answering from Speech

ORAL 📍 Liffey Hall 1

📅 Wednesday 23 August 2023 🕒 13:30–15:30 **Session chairs : Ingo Siegert, Gabriel Skantze**

Wed-O10.1 🕒 13:30–13:50 **Prompt Guided Copy Mechanism for Conversational Question Answering**

Yong Zhang (Ping An Technology (Shenzhen) Co., Ltd); Zhitao Li (Ping An Technology); Jianzong Wang (Ping An Technology (Shenzhen) Co., Ltd); Yiming Gao (Ping An Technology); Ning Cheng; Fengying Yu (Ping An Technology (Shenzhen) Co., Ltd); Jing Xiao (Ping An Insurance (Group) Company of China)

Wed-O10.2 🕒 13:50–14:10 **Composing Spoken Hints for Follow-on Question Suggestion in Voice Assistants**

Pedro Faustini (Macquarie University); Besnik Fetahu; Giuseppe Castellucci; Anjie Fang; Oleg Rokhlenko; Shervin Malmasi (Amazon)

Wed-O10.3 🕒 14:10–14:30 **On Monotonic Aggregation for Open-domain QA**

Sang-eun Han; Yeonseok Jeong; Seung-won Hwang (Seoul National University); Kyungjae Lee (LG AI Research)

Wed-O10.4 🕒 14:30–14:50 **Question-Context Alignment and Answer-Context Dependencies for Effective Answer Sentence Selection**

Minh Van Nguyen (University of Oregon); Kishan KC; Toan Nguyen (Amazon); Thien Huu Nguyen (University of Oregon); Ankit Chadha; Thuy Vu (Amazon)

Wed-O10.5 🕒 14:50–15:10 **Multi-Scale Attention for Audio Question Answering**

Guangyao Li; Yixin Xu; Di Hu (Renmin University of China)

Wed-O10.6 🕒 15:10–15:30 **Enhancing Visual Question Answering via Deconstructing Questions and Explicating Answers**

Feilong Chen; Minglun Han (Institute of Automation, Chinese Academy of Sciences); Jing Shi (Institute of Automation Chinese Academy of Sciences); Shuang Xu (casia); Bo Xu (Institute of Automation, Chinese Academy of Sciences)

Wed-O11 - Sociophonetics

ORAL 📍 Wicklow Hall 1

📅 Wednesday 23 August 2023 🕒 13:30–15:30 **Session chairs : Keikichi Hirose, Bistra Andreeva**

Wed-O11.1 🕒 13:30–14:10 - Survey Talk

A sociolinguistic perspective on speech technology

Nicole Holliday

Wed-O11.3 🕒 14:10–14:30 **Aberystwyth English Pre-aspiration in Apparent Time**

Míša Michaela Hejná (Aarhus University); Adèle Jatteau (Université de Lille)

Wed-O11.4 🕒 14:30–14:50 **Speech Entrainment in Chinese Story-Style Talk Shows: The Interaction Between Gender and Role**

Yanting Sun (Shanghai International Studies University); Hongwei Ding (Shanghai Jiao Tong University)

Wed-O11.5 🕒 14:50–15:10 **Sociodemographic and Attitudinal Effects on Dialect Speakers' Articulation of the Standard Language: Evidence from German-Speaking Switzerland**

Carina Steiner; Dieter Studer-Joho (University of Zurich); Corinne Lanthemann; Andrin Büchler (University of Bern); Adrian Leemann (University of Bern, University of Zurich)

Wed-O11.6 🕒 15:10–15:30 **Vowel Normalisation in Latent Space for Sociolinguistics**

James Burridge (University of Portsmouth)

Wed-O12 - Speaker and Language Diarization

ORAL 📍 EcoCem Room

📅 Wednesday 23 August 2023 🕒 13:30–15:30 **Session chairs : Jesus Villalba, Alfonso Ortega**

Wed-O12.1 🕒 13:30–13:50 **Attention-based Encoder-Decoder Network for End-to-End Neural Speaker Diarization with Target Speaker Attractor**

Zhengyang Chen; Bing Han; Shuai Wang; Yanmin Qian (Shanghai Jiao Tong University)

Wed-O12.2 🕒 13:50–14:10 **Robust Self Supervised Speech Embeddings for Child-Adult**

Classification in Interactions involving Children with Autism

Rimita Lahiri; Tiantian Feng; Rajat Hebbar (University of Southern California); Catherine Lord (University of California); So Hyun Kim (Korea University); Shrikanth Narayanan (USC)

Wed-O12.3 🕒 14:10–14:30 **The DISPLACE Challenge 2023 - Diarization of Speaker and Language in Conversational Environments**

Shikha Baghel (Indian Institute of Science, Bangalore); Shreyas Ramoji (Indian Institute of Science); Sidharth (Indian Institute of Science (IISc)); Ranjana H (Indian Institute of Science); Prachi Singh (Indian Institute of Science, Bangalore); Somil Jain; Pratik Roy Chowdhuri (National Institute of Technology Karnataka, Surathkal); Kaustubh Kulkarni (CVC); Swapnil Padhi (Indian Institute of Science, Bangalore); Deepu Vijayaseenan (National Institute of Technology Karnataka, Surathkal); Sriram Ganapathy (Indian Institute of Science, Bangalore, India, 560012)

Wed-O12.4 🕒 14:30–14:50 **Lexical Speaker Error Correction: Leveraging Language Models for Speaker Diarization Error Correction**

Rohit Paturi; Sundararajan Srinivasan (Amazon.com); Xiang Li (AWS AI Labs)

Wed-O12.5 🕒 14:50–15:10 **The Speed--ZevoTech submission at DISPLACE 2023**

Gabriel Pirlogeanu (University Politehnica of Bucharest); Dan Oneata (Politehnica University of Bucharest); Alexandru-Lucian Georgescu (University Politehnica of Bucharest/ Zevo-Tech); Horia Cucu (University Politehnica of Bucharest)

Wed-O12.6 🕒 15:10–15:30 **End-to-End Neural Speaker Diarization with Absolute Speaker Loss**

Chao Wang; Jie Li; Xiang Fang; Jian Kang; Yongxiang Li (China Telecom Corporation Ltd. Data&AI Technology Company)

Wed-P4 - Analysis of Speech and Audio Signals 3

POSTER 📍 Forum Poster Area 1

📅 Wednesday 23 August 2023 🕒 13:30–13:00 **Session chairs : Bogdan Vlasenko**

Wed-P4.1 ⌚ 13:30–15:30 **Time-frequency Domain Filter-and-sum Network for Multi-channel Speech Separation**

Zhewen Deng (School of Communication and Information Engineering, Chongqing University of Posts and Telecommunications, Chongqing, China); Yi Zhou; Hongqing Liu (CQUPT)

Wed-P4.2 ⌚ 13:30–15:30 **Audio-Visual Fusion using Multiscale Temporal Convolutional Attention for Time-Domain Speech Separation**

Debang Liu; Tianqi Zhang (Chongqing University of Posts and Telecommunications); Mads Græsbøll Christensen (Audio Analysis Lab, CREATE, Aalborg University); Ying Wei; Zeliang An (Chongqing University of Posts and Telecommunications)

Wed-P4.3 ⌚ 13:30–15:30 **An Efficient Speech Separation Network Based on Recurrent Fusion Dilated Convolution and Channel Attention**

Junyu Wang (Sichuan University)

Wed-P4.4 ⌚ 13:30–15:30 **Binaural Sound Localization in Noisy Environments Using Frequency-Based Audio Vision Transformer (FAViT)**

Waradon Phokhinnan (ISIR, STMS, Sorbonne Université); Nicolas Obin (STMS (Ircam, CNRS, Sorbonne Université)); Sylvain Argentieri (CNRS)

Wed-P4.5 ⌚ 13:30–15:30 **Contrastive Learning based Deep Latent Masking for Music Source Separation**

Jihyun Kim (Yonsei University); Hong-Goo Kang (Yonsei University)

Wed-P4.6 ⌚ 13:30–15:30 **Speaker Extraction with Detection of Presence and Absence of Target Speakers**

Ke Zhang (Northeastern University); Marvin Borsdorf (University of Bremen); Zexu Pan (National University of Singapore); Haizhou Li (The Chinese University of Hong Kong (Shenzhen)); Yangjie Wei; Yi Wang (Northeastern University)

Wed-P4.7 ⌚ 13:30–15:30 **PIAVE: A Pose-Invariant Audio-Visual Speaker Extraction Network**

Qinghua Liu (The Chinese University of Hong Kong, Shenzhen); Meng Ge (Tianjin University); Zhizheng Wu (Chinese University of Hong Kong, Shenzhen); Haizhou Li (The Chinese University of Hong Kong, Shenzhen)

Wed-P4.8 ⌚ 13:30–15:30 **Spatial LibriSpeech: An Augmented Dataset for Spatial Audio Learning**

Miguel Sarabia; Elena Menyaylenko; Alessandro Toso; Skyler Seto; Zakaria Aldeneh; Shadi Pirhosseinloo (Apple); Luca Zappella (Apple Inc.); Barry-John Theobald (Apple); Nicholas Apostoloff (Apple Inc.); Jonathan Sheaffer (Apple)

Wed-P4.9 ⌚ 13:30–15:30 **Image-driven Audio-visual Universal Source Separation**

Chenxing Li (kuaishou); Ye Bai; Yang Wang (Kuaishou Technology Co.); Feng Deng (Kuaishou); Yuanyuan Zhao (Chinese Academy of Sciences); Zhuo Zhang (Kuaishou Technology Co.); Xiaorui Wang (Chinese Academy of Sciences)

Wed-P4.10 ⌚ 13:30–15:30 **Joint Blind Source Separation and Dereverberation for Automatic Speech Recognition using Delayed-Subsource MNMF with Localization Prior**

Mieszko Fraś (AGH University of Science and Technology); Marcin Witkowski (Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie); Konrad Kowalczyk (AGH University of Science and Technology)

Wed-P4.11 ⌚ 13:30–15:30 **SDNet: Stream-attention and Dual-feature Learning Network for Ad-hoc Array Speech Separation**

Honglong Wang (Tianjin University); Chengyun Deng (Beijing Xiaoju Technology Co.); Yanjie Fu; Meng Ge; Longbiao Wang; Gaoyan Zhang; Jianwu Dang (Tianjin University); Fei Wang (Beijing Xiaoju Technology Co.)

Wed-P4.12 ⌚ 13:30–15:30 **Deeply Supervised Curriculum Learning for Deep Neural Network-based Sound Source Localization**

Min-Sang Baek; Joon-Young Yang; Joon-Hyuk Chang (Hanyang University)

Wed-P4.13 ⌚ 13:30–15:30 **Multi-channel separation of dynamic speech and sound events**

Takuya Fujimura (Nagoya University); Robin Scheibler (LINE Corporation)

Wed-P4.14 ⌚ 13:30–15:30 **Rethinking the Visual Cues in Audio-Visual Speaker Extraction**

Junjie Li; Meng Ge (Tianjin University); Zexu Pan (National University of Singapore); Rui Cao; Longbiao Wang; Jianwu Dang (Tianjin University); Shiliang Zhang (Alibaba Group)

Wed-P4.15 ⌚ 13:30–15:30 **Using Semi-supervised Learning for Monaural Time-domain Speech Separation with a Self-supervised Learning-based SI-SNR Estimator**

Shaoliang Dang; Tetsuya Matsumoto (Nagoya University); Yoshinori Takeuchi (Daido University); Hiroaki Kudo (Nagoya University)

Wed-P4.16 ⌚ 13:30–15:30 **Investigation of Training Mute-Expressive End-to-End Speech Separation Networks for an Unknown Number of Speakers**

Youngwan Kim; Hyungjun Lim; Kiho Yeom; Eunjo Seo; Hoodong Lee; Stanley Jungkyu Choi; Honglak Lee (LG AI Research)

Wed-P4.17 ⌚ 13:30–15:30 **SR-SRP: Super-Resolution based SRP-PHAT for Sound Source Localization and Tracking**

Jae-Heung Cho (Hanyang University); Joon-Hyuk Chang (Hanyang University)

Wed-P4.18 ⌚ 13:30–15:30 **Dual-Memory Multi-Modal Learning for Continual Spoken Keyword Spotting with Confidence Selection and Diversity Enhancement**

Zhao Yang (Xi'an Jiaotong University); Dianwen Ng (Alibaba Group/Nanyang Technological University); Xizhe Li (Xi'an Jiaotong University); Chong Zhang (Speech Lab of DAMO Academy, Alibaba Group); Rui Jiang; Wei Xi (Xi'an Jiaotong University); Yukun Ma (Alibaba Group); Chongjia Ni (Alibaba); Jizhong Zhao (Xi'an Jiaotong University); Bin Ma (Alibaba, Singapore R&D Center); Eng Siong Chng (Nanyang Technological University)

Wed-P4.19 ⌚ 13:30–15:30 **FN-SSL: Full-Band and Narrow-Band Fusion for Sound Source Localization**

Yabo Wang; Bing Yang; Xiaofei Li (Westlake University)

Wed-P4.20 ⌚ 13:30–15:30 **A Neural State-Space Modeling Approach to Efficient Speech Separation**

Chen Chen (Nanyang Technological University); Chao-Han Huck Yang (Georgia Institute of Technology); Kai Li (Tsinghua University); Yuchen Hu (Nanyang Technological University); Pin-Jui Ku (Georgia Institute of Technology); Eng Siong Chng (Nanyang Technological University)

Wed-P4.21 ⌚ 13:30–15:30 **Locate and Beamform: Two-dimensional Locating All-neural Beamformer for Multi-channel Speech Separation**

Yanjie Fu; Meng Ge; Honglong Wang; Nan Li; Haoran Yin; Longbiao Wang; Gaoyan Zhang; Jianwu Dang (Tianjin University); Chengyun Deng; Fei Wang (Beijing Xiaoju Technology Co.)

Wed-P4.22 ⌚ 13:30–15:30 **Monaural Speech Separation Method Based on Recurrent Attention with Parallel Branches**

Xue Yang; Changchun Bao; Xu Zhang; Xianhong Chen (Beijing University of Technology)

Wed-P4.23 ⌚ 11:00–13:00 **Ontology-aware Learning and Evaluation for Audio Tagging**

Haohe Liu (University of Surrey); Qiuqiang Kong (Byte Dance); Xubo Liu; Xinhao Mei; Wenwu Wang; Mark D. Plumbley (University of Surrey)

Wed-P5 - Speech Coding and Enhancement 3

POSTER 📍 Forum Poster Area 2

📅 Wednesday 23 August 2023 ⌚ 13:30–15:30 **Session chairs : Mohammad Vali**

Wed-P5.1 ⌚ 13:30–15:30 **Multi-Dataset Co-Training with Sharpness-Aware Optimization for Audio Anti-spoofing**

Hye-jin Shim (University of Eastern Finland); Jee-weon Jung (Carnegie Mellon University); Tomi Kinnunen (University of Eastern Finland)

Wed-P5.2 ⌚ 13:30–15:30 **Reducing the Prior Mismatch of Stochastic Differential Equa-**

tions for Diffusion-based Speech Enhancement

Bunlong Lay; Simon Welker; Julius Richter; Timo Gerkmann (Universität Hamburg)

Wed-P5.3 🕒 13:30–15:30

Complex-valued neural networks for voice anti-spoofing

Nicolas M. Müller; Philip Sperl; Konstantin Böttinger (Fraunhofer AISEC)

Wed-P5.4 🕒 13:30–15:30

DeepVQE: Real Time Deep Voice Quality Enhancement for Joint Acoustic Echo Cancellation, Noise Suppression and Dereverberation

Nicolae Catalin Ristea; Evgenii Indenbom; Ando Saabas; Tanel Pärnamaa; Jegor Guzhvin; Ross Cutler (Microsoft)

Wed-P5.5 🕒 13:30–15:30

Diffiner: A Versatile Diffusion-based Generative Refiner for Speech Enhancement

Ryosuke Sawata (Sony Group Corporation / Hokkaido University); Naoki Murata; Yuhta Takida; Toshimitsu Uesaka; Takashi Shibuya; Shusuke Takahashi; Yuki Mitsufuji (Sony Group Corporation)

Wed-P5.6 🕒 13:30–15:30

HD-DEMUCS: General Speech Restoration with Heterogeneous Decoders

Doyeon Kim (Yonsei University); Soo-Whan Chung (Naver Corporation); Hyewon Han (Yonsei University); Youna Ji (NAVER Corporation); Hong-Goo Kang (Yonsei University)

Wed-P5.7 🕒 13:30–15:30

MP-SENet: A Speech Enhancement Model with Parallel Denoising of Magnitude and Phase Spectra

Ye-Xin Lu; Yang Ai; Zhen-Hua Ling (University of Science and Technology of China)

Wed-P5.8 🕒 13:30–15:30

TridentSE: Guiding Speech Enhancement with 32 Global Tokens

Dacheng Yin (University of Science and Technology of China); Zhiyuan Zhao (MSRA); Chuanxin Tang (Microsoft); Zhiwei Xiong (University of Science and Technology of China); Chong Luo (MSRA)

Wed-P5.9 🕒 13:30–15:30

Detection of Cross-Dataset Fake Audio Based on Prosodic and Pronunciation Features

Chenglong Wang (CASIA); Jiangyan Yi; Jianhua Tao (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences); Chu Yuan Zhang (Chinese Academy of Sciences); Shuai Zhang (School of Artificial Intelligence, University of Chinese Academy of Sciences); Xun Chen (University of Science and Technology of China)

Wed-P5.10 🕒 13:30–15:30

Self-supervised learning with Diffusion-based multichannel speech enhancement for speaker verification under noisy conditions

Sandipana Dowerah (Inria); Ajinkya Kulkarni (MBZUAI University); Romain Serizel (Université de Lorraine); Denis Jouvet (LORIA)

Wed-P5.11 🕒 13:30–15:30

Two-Stage Voice Anonymization for Enhanced Privacy

Francesco Nespola (Nuance Communications UK); Daniel Barreda (Nuance); Jörg Bitzer (Institute of Hearing Technology and Audiology, Jade University of Applied Sciences, Oldenburg); Patrick A. Naylor (Imperial College London)

Wed-P5.12 🕒 13:30–15:30

Personalized Dereverberation of Speech

Ruilin Xu (Columbia University); Gurunandan Krishnan (Snap Inc); Changxi Zheng; Shree K. Nayar (Columbia University)

Wed-P5.13 🕒 13:30–15:30

Weighted Von Mises Distribution-based Loss Function for Real-time STFT Phase Reconstruction Using DNN

Nguyen Binh Thien (Ritsumeikan University); Yukoh Wakabayashi (Toyoashi University of Technology); Yuting Geng; Kenta Iwai; Takanobu Nishiura (Ritsumeikan University)

Wed-P5.14 🕒 13:30–15:30

Deep Multi-Frame Filtering for Hearing Aids

Hendrik Schröter (Pattern Recognition Lab, FAU Erlangen-Nuremberg); Tobias Rosenkranz; Alberto N. Escalante-B. (WS Audiology, Research and Development); Andreas Maier (Friedrich-Alexander-Universität Erlangen-Nürnberg)

Wed-P5.15 🕒 13:30–15:30

Aligning Speech Enhancement for Improving Downstream Classification Performance

Yan Xiong; Visar Berisha; Chaitali Chakrabarti (Arizona State University)

Wed-P5.16 ⌚ 13:30–15:30 **DNN-based Parameter Estimation for MVDR Beamforming and Post-filtering**

Minseung Kim (Gwangju institute of science and technology); Sein Cheong (GIST); Jong Won Shin (Gwangju Institute of Science and Technology)

Wed-P5.17 ⌚ 13:30–15:30 **FRA-RIR: Fast Random Approximation of the Image-source Method**

Yi Luo (Tencent AI Lab); Jianwei Yu (Tencent AI lab)

Wed-P5.18 ⌚ 13:30–15:30 **Rethinking Complex-Valued Deep Neural Networks for Monaural Speech Enhancement**

Haibin Wu (National Taiwan University); Ke Tan (Meta Platforms, Inc.); Buye Xu (Meta Reality Labs Research); Anurag Kumar (Meta); Daniel Wong (Meta Platforms Inc.)

Wed-P5.19 ⌚ 13:30–15:30 **Harmonic enhancement using learnable comb filter for light-weight full-band speech enhancement model**

Xiaohuai Le (Nanjing University, ByteDance); Tong Lei (Nanjing University); Li Chen; Yiqing Guo; Chao He; Cheng Chen (ByteDance); Xianjun Xia (RTC Lab, ByteDance); Hua Gao; Yijian Xiao; Piao Ding; Shenyi Song (ByteDance); Jing Lu (Nanjing University)

Wed-P6 - Spoken Language Translation, Information Retrieval, Summarization, Resources, and Evaluation 3

POSTER 📍 Forum Poster Area 3

📅 Wednesday 23 August 2023 ⌚ 13:30–15:30 **Session chairs : Santosh Kesiraju**

Wed-P6.1 ⌚ 13:30–15:30 **How Does Pretraining Improve Discourse-Aware Translation?**

Zhihong Huang (University of Macau); Longyue Wang (Tencent AI Lab); Siyou Liu (University of Macau); Derek F. Wong (University of Macau)

Wed-P6.2 ⌚ 13:30–15:30 **PATCorrect: Non-autoregressive Phoneme-augmented Transformer for ASR Error Correction**

Ziji Zhang (Stony Brook University); Zhehui Wang; Rajesh Kamma; Sharanya Eswaran (Amazon.com Inc); Narayanan Sadagopan (Amazon)

Wed-P6.3 ⌚ 13:30–15:30 **Model-assisted Lexical Tone Evaluation of three-year-old Chinese-speaking Children by also Considering Segment Production**

Shu-Chuan Tseng (Institute of Linguistics, Academia Sinica); Yi-Fen Liu; Xiang-Li Lu (IECS, Feng Chia University)

Wed-P6.4 ⌚ 13:30–15:30 **Sentence Embedder Guided Utterance Encoder (SEGUE) for Spoken Language Understanding**

Yi Xuan Tan; Navonil Majumder; Soujanya Poria (Singapore University of Technology and Design)

Wed-P6.5 ⌚ 13:30–15:30 **Joint Time and Frequency Transformer for Chinese Opera Classification**

Qiang Li (Ajmide Media); Beibei Hu (Ajmide Media)

Wed-P6.6 ⌚ 13:30–15:30 **AdaMS: Deep Metric Learning with Adaptive Margin and Adaptive Scale for Acoustic Word Discrimination**

Myunghun Jung (KAIST); Hoirin Kim (KAIST)

Wed-P6.7 ⌚ 13:30–15:30 **Investigating Reproducibility at Interspeech Conferences: A Longitudinal and Comparative Perspective**

Mohammad Arvan (University of Illinois at Chicago); A. Seza Dođruöz (Ghent University); Natalie Parde (University of Illinois at Chicago)

Wed-P6.8 ⌚ 13:30–15:30 **Combining Heterogeneous Structures for Event Causality Identification**

Amir Pouran Ben Veyseh (University of Oregon); Franck Dernoncourt (Adobe Research); Thien Huu Nguyen (University of Oregon)

Wed-P6.9 ⌚ 13:30–15:30 **An Efficient Approach for the Automated Segmentation and Transcription of the People's Speech Sorpus**

Astik Biswas (Oracle); Abdelmoumene Boumadane; Stephane Peillon; Gildas Bleas (Oracle Cloud Infrastructure)

Wed-P6.10 🕒 13:30–15:30 **Diverse Feature Mapping and Fusion via Multitask Learning for Multilingual Speech Emotion Recognition**

Shi-wook Lee (National Institute of Advanced Industrial Science and Technology)

Wed-P6.11 🕒 13:30–15:30 **Take the Hint: Improving Arabic Diacritization with Partially-Diacritized Text**

Parnia Bahar; Mattia Di Gangi (AppTek); Nick Rossenbach (RWTH Aachen University / AppTek GmbH); Mohammad Zeineldeen (RWTH Aachen University / AppTek)

Wed-P6.12 🕒 13:30–15:30 **Low-Resource Cross-Lingual Adaptive Training for Nigerian Pidgin**

Pin-Jie Lin; Muhammed Saeed (Saarland University); Ernie Chang (Meta Inc.); Merel Scholman (Saarland University)

Wed-P6.13 🕒 13:30–15:30 **Efficient Adaptation of Spoken Language Understanding based on End-to-End Automatic Speech Recognition**

Eesung Kim; Aditya Jajodia; Cindy Tseng; Divya Neelagiri; Taeyeon Ki; Vijendra Raj Apsingekar (Samsung Research America)

Wed-P6.14 🕒 13:30–15:30 **PhonMatchNet: Phoneme-Guided Zero-Shot Keyword Spotting for User-Defined Keywords**

Yong-Hyeok Lee (NCSSOFT); Namhyun Cho (NCSSOFT)

Wed-P6.15 🕒 13:30–15:30 **Mix before Align: Towards Zero-shot Cross-lingual Sentiment Analysis via Soft-Mix and Multi-View Learning**

Zhihong Zhu; Xuxin Cheng; Dongsheng Chen; Zhiqi Huang; Hongxiang Li; Yuexian Zou (Peking University)

Wed-P6.16 🕒 13:30–15:30 **AlignAtt: Using Attention-based Audio-Translation Align-**

ments as a Guide for Simultaneous Speech Translation

Sara Papi (Fondazione Bruno Kessler and University of Trento); Marco Turchi (Independent Researcher); Matteo Negri (Fondazione Bruno Kessler)

Wed-P6.17 🕒 13:30–15:30 **Incremental Block-wise Beam Search for Simultaneous Speech Translation with Controllable Quality-Latency Tradeoff**

Peter Polák (Charles University); Brian Yan; Shinji Watanabe; Alex Waibel (Carnegie Mellon University); Ondřej Bojar (Charles University)

Wed-P6.18 🕒 13:30–15:30 **Zambezi Voice: A Multilingual Speech Corpus for Zambian Languages**

Claytone Sikasote; Kalinda Siaminwe; Stanly Mwape (University of Zambia); Bangiwe Zulu; Mofya Phiri (The University of Zambia); Martin Phiri; David Zulu; Mayumbo Nyirenda (University of Zambia); Antonios Anastasopoulos (George Mason University)

Wed-P7 - Speech Emotion Recognition 2

POSTER 📍 Forum Poster Area 4

📅 Wednesday 23 August 2023 🕒 13:30–15:30 **Session chairs : Vidhyasaharan Sethu**

Wed-P7.1 🕒 13:30–15:30 **A Context-Constrained Sentence Modeling for Deception Detection in Real Interrogation**

Ya-Tse Wu (Department of Electrical Engineering, National Tsing Hua University); Yuan-Ting Chang (Ministry of Justice); Shao-Hao Lu (National Tsing Hua University); Jing-Yi Chuang (CPC Corporation); Chi-Chun Lee (National Tsing Hua University)

Wed-P7.2 🕒 13:30–15:30 **MetricAug: A Distortion Metric-Lead Augmentation Strategy for Training Noise-Robust Speech Emotion Recognizer**

Ya-Tse Wu (Department of Electrical Engineering, National Tsing Hua University); Chi-Chun Lee (National Tsing Hua University)

Wed-P7.3 ⌚ 13:30–15:30 **The co-use of laughter and head gestures across speech styles**

Bogdan Ludusan; Marin Schröer (Bielefeld University); Martina Rossi (Kiel University); Petra Wagner (Bielefeld University)

Wed-P7.4 ⌚ 13:30–15:30 **EmotionNAS: Two-stream Neural Architecture Search for Speech Emotion Recognition**

Haiyang Sun; Zheng Lian (Institute of Automation, Chinese Academy of Sciences); Bin Liu (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences); Ying Li (State Key Laboratory of Multimodal Artificial Intelligence Systems); Jianhua Tao (Tsinghua University); Licai Sun (University of Chinese Academy of Sciences); Cong Cai (Institute of Automation, Chinese Academy of Sciences); Meng Wang (Ant Group); Yuan Cheng (Fudan University)

Wed-P7.5 ⌚ 13:30–15:30 **Pre-Finetuning for Few-Shot Emotional Speech Recognition**

Maximillian Chen (Columbia University); Zhou Yu (Columbia University)

Wed-P7.6 ⌚ 13:30–15:30 **Integrating Emotion Recognition with Speech Recognition and Speaker Diarisation for Conversations**

Wen Wu; Chao Zhang (University of Cambridge); Philip C. Woodland (Machine Intelligence Laboratory, Cambridge University Department of Engineering)

Wed-P7.7 ⌚ 13:30–15:30 **Utility-Preserving Privacy-Enabled Speech Embeddings for Emotion Detection**

Chandrashekhara Lavania (AWS AI Labs); Sanjiv Das (Amazon Web Services); Xin Huang (Amazon AI); Kyu J. Han (AWS AI Labs)

Wed-P7.8 ⌚ 13:30–15:30 **Node-weighted Graph Convolutional Network for Depression Detection in Transcribed Clinical Interviews**

Sergio Burdisso (Idiap); Esaú Villatoro-Tello (Idiap Research Institute); Srikanth Madikeri; Petr Motliceck (Idiap)

Wed-P7.9 ⌚ 13:30–15:30 **Laughter in task-based settings: whom we talk to affects how, when, and how often we laugh**

Catarina Branco (Instituto Superior Técnico); Isabel Trancoso (INESC ID); Paulo Infante (University of Évora); Khiat P. Truong (University of Twente)

Wed-P7.10 ⌚ 13:30–15:30 **Exploring Downstream Transfer of Self-Supervised Features for Speech Emotion Recognition**

Yuanbo Fang; Xiaofen Xing; Xiangmin Xu (South China University of Technology); Weibin Zhang (VoiceAI Technologies)

Wed-P7.11 ⌚ 13:30–15:30 **Leveraging Semantic Information for Efficient Self-Supervised Emotion Recognition with Audio-Textual Distilled Models**

Danilo de Oliveira; Navin Raj Prabhu; Timo Gerkmann (Universität Hamburg)

Wed-P7.12 ⌚ 13:30–15:30 **Two-stage Finetuning of Wav2vec 2.0 for Speech Emotion Recognition with ASR and Gender Pretraining**

Yuan Gao; Chenhui Chu; Tatsuya Kawahara (Kyoto University)

Wed-P7.13 ⌚ 13:30–15:30 **Investigating Acoustic Cues for Multilingual Abuse Detection**

Yash Thakran (Indraprastha Institute of Information Technology, Delhi); Vinayak Abrol (Indraprastha Institute of Technology Delhi)

Wed-P7.14 ⌚ 13:30–15:30 **A novel frequency warping scale for speech emotion recognition**

Premjeet Singh (IIT Kharagpur); Goutam Saha (Indian Institute of Technology Kharagpur)

Wed-P7.15 ⌚ 13:30–15:30 **Multi-Scale Temporal Transformer For Speech Emotion Recognition**

Zipeng Li; Xiaofen Xing; Yuanbo Fang (South China University of Technology); Weibin Zhang (VoiceAI Technologies); Hengsheng Fan (Forensic Science Institute of Guangzhou Public Security Bureau); Xiangmin Xu (South China University of Technology)

Wed-P7.16 ⌚ 13:30–15:30 **Distant Speech Emotion Recognition in an Indoor Human-robot Interaction Scenario**

Nicolás Grágeda (Universidad de Chile); Eduardo Alvarado (Speech Processing and Transmission Laboratory); Rodrigo Mahu (University of Chile); Carlos Busso (University of Texas at Dallas); Néstor Becerra Yoma (University of Chile)

Wed-P7.17 🕒 13:30–15:30 **A Study on Prosodic Entrainment in Relation to Therapist Empathy in Counseling Conversation**

Dehua Tao; Tan Lee; Harold Chui; Sarah Luk (The Chinese University of Hong Kong)

Wed-SaT - Show and Tell: Language learning and educational resources

POSTER 📍 Show and Tell Area

📅 Wednesday 23 August 2023 🕒 13:30–15:30 **Session chairs :**

Wed-SaT.1 🕒 13:30–15:30 **A Unified Framework to Improve Learners' Skills of Perception and Production Based on Speech Shadowing and Overlapping**

Nobuaki Minematsu (The University of Tokyo); Noriko Nakanishi (Kobe Gakuin University); Yingxiang Gao; Haitong Sun (The University of Tokyo)

Wed-SaT.2 🕒 13:30–15:30 **Speak & Improve: L2 English Speaking Practice Tool**

Diane Nicholls (English Language iTutoring Ltd); Kate M. Knill; Mark J. F. Gales (Enhanced Speech Technology Ltd/University of Cambridge); Anton Ragni (Enhanced Speech Technology Ltd); Paul Ricketts (English Language iTutoring Ltd)

Wed-SaT.3 🕒 13:30–15:30 **Measuring prosody in child speech using SoapBox Fluency API**

Mauro Nicolao; Brenda McGuirk; Declan Moore; Niall Mullally; Lora Lynn O'Mahony; Emma O'Neill; Amelia C. Kelly (SoapBox Labs)

Wed-SaT.4 🕒 13:30–15:30 **Teaching Non-native Sound Contrasts using Visual Biofeedback**

Shawn Nissen (Brigham Young University)

Wed-SaT.5 🕒 13:30–15:30 **Large-Scale Automatic Audiobook Creation**

Brendan Walsh; Mark Hamilton (Microsoft); Greg Newby (Project Gutenberg); Xi Wang (Microsoft Cloud and AI); Serena Ruan; Sheng Zhao (Microsoft); Lei He (Microsoft Cloud and AI); Shaofei Zhang (MS); Eric Dettinger (Microsoft); William T. Freeman (MIT); Markus Weimer (Microsoft)

Wed-SaT.6 🕒 13:30–15:30 **QVoice: Arabic Speech Pronunciation Learning Application**

Yassine El Kheir (Qatar Computing Research Institute (QCRI)); Fouad Khnaisser (HBKU); Shammur Absar Chowdhury (QCRI); Hamdy Mubarak (Qatar Computing Research Institute, HBKU); Shazia Afzal (HBKU); Ahmed M. Ali (Qatar Computing Research Institute, HBKU)

Wed-SaT.7 🕒 13:30–15:30 **Asking Questions: an Innovative Way to Interact with Oral History Archives**

Jan Švec; Martin Bulín; Adam Frémund; Filip Polák (University of West Bohemia)

Wed-SaT.8 🕒 13:30–15:30 **DisfluencyFixer: A tool to enhance Language Learning through Speech To Speech Disfluency Correction**

Vineet Bhat (IIT Bombay); Preethi Jyothi (Indian Institute of Technology Bombay); Pushpak Bhattacharyya (IIT Bombay)

Wed-SaT.9 🕒 13:30–15:30 **Technology Pipeline for Large Scale Cross-Lingual Dubbing of Lecture Videos into Multiple Indian Languages**

Anusha Prakash (Indian Institute of Technology Madras); Arun Kumar; Ashish Seth; Bhagyashree Mukherjee; Ishika Gupta; Jom Kuriakose; Jordan F; K V Vikram; Mano R Kumar M; Metilda Sagaya Mary; Mohammad Wajahat; Mohana N; Mudit Batra; Navina K; Nihal John George; Nithya Ravi (IIT Madras); Pruthwik Mishra (IIIT Hyderabad); Sudhanshu Srivastava (IIT Madras); Vasista Sai Lodagala (Indian Institute of Technology, Madras); Vandan Mujadia (IIIT Hyderabad); Kada Sai Venkata Vineeth (IIT Madras); Vrunda N. Sukhadia (Indian Institute Of Technology Madras); Dipti Sharma (IIIT Hyderabad); Hema Murthy (IIT Madras); Pushpak Bhattacharyya (IIT Bombay); S Umesh (IIT Chennai); Rajeev Sangal (IIIT Hyderabad)

Wed-SaT.10 🕒 13:30–15:30 **MyVoice: Arabic Speech Resource Collaboration Platform**

Yousseif Elshahawy (HBKU); Yassine El Kheir (Qatar Computing Research Institute (QCRI)); Shammur Absar Chowdhury (QCRI); Ahmed M. Ali (Qatar Computing Research Institute, HBKU)

Mostafa Shahin; Zheng Nan (UNSW); Vidhyasaharan Sethu (University of New South Wales); Beena Ahmed (School of Electrical Engineering and Telecommunications, UNSW Australia)

Wed-SaT.11 🕒 13:30–15:30 **Personal Primer Prototype 1: Invitation to Make Your Own Embooked Speech-Based Educational Artifact**

Daniel D. Hromada (Berlin University of the Arts); Hyungjoong Kim (Berlin University of the Arts)

Wed-S3.4 🕒 17:00–17:20 **Language Identification Networks for Multilingual Everyday Recordings**

Kiran Praveen (Samsung R&D Institute Bangalore); Balaji Radhakrishnan (Samsung R&D Institute); Kamini Sabu (Samsung Research and Development Institute - Bangalore, India); Abhishek Pandey (Samsung R&D Institute); Mahaboob Ali Basha Shaik (Samsung Research and Development Institute - Bangalore, India)

Wed-S3 - MERLion CCS Challenge: Multilingual Everyday Recordings - Language Identification On Code-Switched Child-Directed Speech

SPECIAL 📍 Liffey Meeting Room 2

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Leibny Paola Garcia Perera, Hexin Liu**

Wed-S3.5 🕒 17:20–17:40 **Investigating model performance in language identification: beyond simple error statistics**

Suzy J. Styles; Victoria Y. H. Chua; Fei Ting Woon; Hexin Liu (Nanyang Technological University); Leibny Paola Garcia; Sanjeev Khudanpur (Johns Hopkins University); Andy W. H. Khong (Nanyang Technological University); Justin Dauwels (Delft University of Technology)

Wed-S3.WEL 🕒 16:00–16:05 **Welcome and overview**

Wed-S3.AWD 🕒 17:40–18:00 **Awards ceremony and roundtable**

Wed-S3.1 🕒 16:05–16:20 **MERLion CCS Challenge: A English-Mandarin code-switching child-directed speech corpus for language identification and diarization**

Victoria Y. H. Chua; Hexin Liu (Nanyang Technological University); Leibny Paola Garcia (Johns Hopkins University); Fei Ting Woon; Jinyi Wong (Nanyang Technological University); Xiangyu Zhang; Sanjeev Khudanpur (Johns Hopkins University); Andy W. H. Khong (Nanyang Technological University); Justin Dauwels (Delft University of Technology); Suzy J. Styles (Nanyang Technological University)

Wed-O13 - Anti-Spoofing for Speaker Verification

ORAL 📍 The Auditorium

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Pavel Matejka, Nicholas Evans**

Wed-S3.2 🕒 16:20–18:40 **Spoken Language Identification System for English-Mandarin Code-Switching Child-Directed Speech**

Shashi Kant Gupta (RingCentral Innovation India); Sushant Hiray; Prashant Kukde (RingCentral Inc.)

Wed-O13.1 🕒 16:00–16:20 **Towards Single Integrated Spoofing-aware Speaker Verification Embeddings**

*Sung Hwan Mun (Seoul National University); Hye-jin Shim (University of Eastern Finland); Hemlata Tak (EU-RECOM); Xin Wang (National Institute of Informatics); Xuechen Liu (School of Computing, University of Eastern Finland); Md Sahidullah (Institute for Advancing Intelligence, TCG CREST); Myeonghun Jeong; Min Hyun Han (Seoul National University); Massimiliano Todisco (EU-RECOM); Kong Aik Lee (Institute for Infocomm Research, A*STAR); Junichi Yamagishi (National Institute of Informatics); Nicholas Evans (EU-RECOM); Tomi Kinnunen (University of Eastern Finland); Nam Soo Kim (Seoul Na-*

Wed-S3.3 🕒 16:40–17:00 **Improving wav2vec2-based Spoken Language Identification by Learning Phonological Features**

tional University); Jee-weon Jung (Carnegie Mellon University)

Wed-O13.2 🕒 16:20–16:40 **Pseudo-Siamese Network based Timbre-reserved Black-box Adversarial Attack in Speaker Identification**

Qing Wang; Jixun Yao; Ziqian Wang; Pengcheng Guo (Northwestern Polytechnical University); Lei Xie (NWPUP)

Wed-O13.3 🕒 16:40–17:00 **Betray Oneself: A Novel Audio DeepFake Detection Model via Mono-to-Stereo Conversion**

Rui Liu; Jinhua Zhang; Guanglai Gao (Inner Mongolia University); Haizhou Li (The Chinese University of Hong Kong (Shenzhen))

Wed-O13.4 🕒 17:00–17:20 **Robust Audio Anti-spoofing Countermeasure with Joint Training of Front-end and Back-end Models**

Xingming Wang; Bang Zeng (Wuhan University); Suo Hongbin; Yulong Wan (OPPO); Ming Li (Duke Kunshan University)

Wed-O13.5 🕒 17:20–17:40 **Improved DeepFake Detection Using Whisper Features**

Piotr Kawa; Marcin Plata; Michał Czuba; Piotr Szymański; Piotr Syga (Wrocław University of Science and Technology)

Wed-O13.6 🕒 17:40–18:00 **DoubleDeceiver: Deceiving the Speaker Verification System Protected by Spoofing Countermeasures**

Mengao Zhang (Nanyang Technological University); Ke Xu (Huawei International); Hao Li (Huawei Technology); Lei Wang; Chengfang Fang; Jie Shi (Huawei International)

Wed-O14 - Speech Coding: Intelligence

ORAL 📍 Wicklow Hall 2

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Tim Fingscheidt, Jan Skoglund**

Wed-O14.1 🕒 16:00–16:20 **On Training a Neural Residual Acoustic Echo Suppressor for**

Improved ASR

Sankaran Panchapagesan (Google, LLC); Turaj Zakizadeh Shabestary (Google); Arun Narayanan (Google Inc.)

Wed-O14.2 🕒 16:20–16:40 **Extending DNN-based Multiplicative Masking to Deep Sub-band Filtering for Improved Dereverberation**

Jean-Marie Lemerrier; Julian Tobergte; Timo Gerkmann (Universität Hamburg)

Wed-O14.3 🕒 16:40–17:00 **UnSE: Unsupervised Speech Enhancement Using Optimal Transport**

Wenbin Jiang; Fei Wen; Yifan Zhang; Kai Yu (Shanghai Jiao Tong University)

Wed-O14.4 🕒 17:00–17:20 **MC-SpEx: Towards Effective Speaker Extraction with Multi-Scale Interfusion and Conditional Speaker Modulation**

Jun Chen (Tsinghua University); Wei Rao (Tencent); Zilin Wang; Jiuxin Lin (Tsinghua University); Yukai Ju; Shulin He; Yannan Wang (Tencent); Zhiyong Wu (Tsinghua University)

Wed-O14.5 🕒 17:20–17:40 **Causal Signal-Based DCCRN with Overlapped-Frame Prediction for Online Speech Enhancement**

Julitta Bartolewska; Stanisław Kacprzak; Konrad Kowalczyk (AGH University of Science and Technology)

Wed-O14.6 🕒 17:40–18:00 **Gesper: A Restoration-Enhancement Framework for General Speech Reconstruction**

Wenzhe Liu (Institute of Acoustics, Chinese Academy of Sciences); Yupeng Shi (Tencent); Jun Chen (Tsinghua University); Wei Rao; Shulin He (Tencent); Andong Li (Institute of Acoustics, Chinese Academy of Sciences); Yannan Wang (Tencent); Zhiyong Wu (Tsinghua University)

Wed-O15 - New Computational Strategies for ASR Training and Inference

ORAL 📍 Liffey Hall 2

📅 Wednesday 23 August 2023 🕒
16:00–18:00 **Session chairs** : Peter Mihajlik, Yanhua Long

Wed-O15.1 🕒 16:00–16:20 **A Metric-Driven Approach to Conformer Layer Pruning for Efficient ASR Inference**

Dhanush Bekal (AWS AI Labs); Karthik Gopalakrishnan (Amazon Alexa AI); Karel Mundnich; Srikanth Ronanki; Sravan Bodapati; Katrin Kirchhoff (Amazon)

Wed-O15.2 🕒 16:20–16:40 **Distillation Strategies for Discriminative Speech Recognition Rescoring**

Prashanth Gurunath Shivakumar; Jari Kolehmainen (Amazon); Yile Gu (Amazon.com, USA); Ankur Gandhe; Ariya Rastrow (Amazon Alexa); Ivan Bulyko (Amazon)

Wed-O15.3 🕒 16:40–17:00 **Another Point of View on Visual Speech Recognition**

Baptiste Pouthier (NXP, INRIA); Laurent Pilati; Giacomo Valenti (NXP); Charles Bouveyron (Université Côte d'Azur); Frederic Precioso (Université Cote d'Azur)

Wed-O15.4 🕒 17:00–17:20 **RASR2: The RWTH ASR Toolkit for Generic Sequence-to-sequence Speech Recognition**

Wei Zhou (RWTH Aachen University); Eugen Beck (AppTek GmbH); Simon Berger; Ralf Schlüter; Hermann Ney (RWTH Aachen University)

Wed-O15.5 🕒 17:20–17:40 **Streaming Speech-to-Confusion Network Speech Recognition**

Denis Filimonov (Amazon); Prabhat Pandey; Ariya Rastrow; Ankur Gandhe (Amazon Alexa); Andreas Stolcke (Amazon)

Wed-O15.6 🕒 17:40–18:00 **Accurate and Structured Pruning for Efficient Automatic Speech Recognition**

Huiqiang Jiang (Microsoft Research Asia); Li Lyna Zhang (Microsoft Research); Yang Li (University of Cambridge); Yu Wu (Microsoft Research Asia); Shijie Cao;

Ting Cao; Yuqing Yang (Microsoft Research); Jinyu Li (Microsoft); Mao Yang (MSRA); Lili Qiu (Microsoft Research Asia)

Wed-O16 - Health-Related Speech Analysis

ORAL 📍 Liffey Hall 1

📅 Wednesday 23 August 2023 🕒
16:00–18:00 **Session chairs** : Corinne Fredouille, Iona Gessinger

Wed-O16.1 🕒 16:00–16:20 **Classification of Vocal Intensity Category from Speech using the Wav2vec2 and Whisper Embeddings**

Manila Kodali; Sudarsana Reddy Kadiri; Paavo Alku (Aalto University)

Wed-O16.2 🕒 16:20–16:40 **The effect of clinical intervention on the speech of individuals with PTSD: features and recognition performances**

Alexander Kathan; Andreas Triantafyllopoulos; Shahin Amiriparian (University of Augsburg); Sabrina Milkus (Ludwig-Maximilians-University Munich); Alexander Gebhard (University of Augsburg); Jonas Hohmann; Pauline Muderlak (Ludwig-Maximilians-University Munich); Jürgen Schottdorf (Zentrumpraxis Friedberg); Björn W. Schuller (Imperial College London); Richard Musil (Ludwig-Maximilians-University Munich)

Wed-O16.3 🕒 16:40–17:00 **Analysis and automatic prediction of exertion from speech: Contrasting objective and subjective measures collected while running**

Andreas Triantafyllopoulos; Alexander Gebhard; Alexander Kathan; Maurice Gerczuk; Shahin Amiriparian (University of Augsburg); Björn W. Schuller (Imperial College London)

Wed-O16.4 🕒 17:00–17:20 **The Androids Corpus: A New Publicly Available Benchmark for Speech Based Depression Detection**

Fuxiang Tao (University of Glasgow); Anna Esposito (Università di Napoli (Italy)); Alessandro Vinciarelli (University of Glasgow)

Wed-O16.5 🕒 17:20–17:40 **Comparing Hand-Crafted Features to Spectrograms for**

Autism Severity Estimation

Marina Eni (Ben Gurion University of the Negev); Ilan Dinstein; Yaniv Zigel (Ben-Gurion University of the Negev)

Wed-O16.6 🕒 17:40–18:00 **Acoustic characteristics of depression in older adults' speech: the role of covariates**

Carmen Mijnders (Radboud University); Esther Janse (Radboud University Nijmegen); Paul Naarding (GGNet, dept of old-age psychiatry); Khiet P. Truong (University of Twente)

Wed-O17 - Automatic Audio Classification and Audio Captioning

ORAL 📍 Wicklow Hall 1

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Jean-François Bonastre, Mirco Ravanelli**

Wed-O17.1 🕒 16:00–16:40 - Survey Talk

Automated Audio Captioning: Audio-Text Cross-Modal Learning

Wenwu Wang

Wed-O17.3 🕒 16:40–17:00 **Dual Transformer Decoder based Features Fusion Network for Automated Audio Captioning**

Jianyuan Sun; Xubo Liu; Xinhao Mei (University of Surrey); Volkan Kılıç (Izmir Katip Celebi University); Mark D. Plumbley; Wenwu Wang (University of Surrey)

Wed-O17.4 🕒 17:00–17:20 **Adapting a Con-vNeXt Model to Audio Classification on AudioSet**

Thomas Pellegrini (IRIT); Ismail Khalfaoui-Hassani (Université Fédérale Toulouse Midi-Pyrénées); Etienne Labbé (IRIT); Timothée Masquelier (Centre de Recherche Cerveau et Cognition (CERCO))

Wed-O17.5 🕒 17:20–17:40 **Few-shot Class-incremental Audio Classification Using Stochastic Classifier**

Yanxiong Li; Wenchang Cao; Jialong Li; Wei Xie; Qianhua He (South China University of Technology)

Wed-O17.6 🕒 17:40–18:00 **Enhance Temporal**

Relations in Audio Captioning with Sound Event Detection

Zeyu Xie; Xuenan Xu; Mengyue Wu; Kai Yu (Shanghai Jiao Tong University)

Wed-O18 - Resources for Spoken Language Processing

ORAL 📍 EcoCem Room

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Lori Lamel, Shi-wook Lee**

Wed-O18.1 🕒 16:00–16:20 **Multimodal Personality Traits Assessment (MuPTA) Corpus: The Impact of Spontaneous and Read Speech**

Elena Ryumina (SPC RAS); Dmitry Ryumin; Maxim Markitantov (St. Petersburg Federal Research Center of the Russian Academy of Sciences); Heysem Kaya (Utrecht University); Alexey Karpov (Russian Academy of Sciences)

Wed-O18.2 🕒 16:20–16:40 **MOCKS 1.0: Multilingual Open Custom Keyword Spotting Testset**

Mikołaj Pudo; Mateusz Wosik; Adam Cieślak; Justyna Krzywdziak; Bożena Lukasiak (Samsung R&D Institute Poland); Artur Janicki (Warsaw University of Technology)

Wed-O18.3 🕒 16:40–17:00 **MD3: The Multi-Dialect Dataset of Dialogues**

Jacob Eisenstein; Vinodkumar Prabhakaran (Google); Clara Rivera (Google Research); Dorottya Demszky (Stanford University); Devyani Sharma (Queen Mary University of London)

Wed-O18.4 🕒 17:00–17:20 **MuAViC: A Multilingual Audio-Visual Corpus for Robust Speech Recognition and Robust Speech-to-Text Translation**

Mohamed Anwar (Meta); Bowen Shi (Toyota Technological Institute at Chicago); Vedanuj Goswami (Facebook AI Research); Wei-Ning Hsu (Massachusetts Institute of Technology); Juan Pino (Facebook); Changhan Wang (Facebook AI Research)

Wed-O18.5 🕒 17:20–17:40 **Thai Dialect Corpus and Transfer-based Curriculum Learning Investigation for Dialect Automatic Speech Recognition**

Artit Suwanbandit; Burin Naowarat (Chulalongkorn University); Orathai Sangpetch (CMKL University); Ekapol Chuangsuwanich (Chulalongkorn University)

Wed-O18.6 🕒 17:40–18:00 **HK-LegiCoST: Leveraging Non-Verbatim Transcripts for Speech Translation**

Cihan Xiao; Henry Li Xinyuan; Jinyi Yang; Dongji Gao; Matthew Wiesner; Kevin Duh; Sanjeev Khudanpur (Johns Hopkins University)

Wed-P8.5 🕒 16:00–18:00 **UnDiff: Unsupervised Voice Restoration with Unconditional Diffusion Model**

Anastasiia Iashchenko (Samsung); Pavel Andreev (Samsung AI Center Moscow); Ivan Shchekotov (Samsung); Nicholas Babaev (Samsung AI center); Dmitry Vetrov (Higher School of Economics)

Wed-P8.6 🕒 16:00–18:00 **Pruning Self-Attention for Zero-Shot Multi-Speaker Text-to-Speech**

Hyungchan Yoon (Yonsei University); Changhwan Kim (Yonsei University, Hyundai Motor Company); Eunwoo Song; Hyun-Wook Yoon (NAVER Cloud Corp.); Hong-Goo Kang (Yonsei University)

Wed-P8 - Speech Synthesis

POSTER 📍 Forum Poster Area 1

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Sam Ribeiro**

Wed-P8.1 🕒 16:00–18:00 **Epoch-Based Spectrum Estimation for Speech**

Jón Guðnason; Guolin Fang (Reykjavik University); Mike Brookes (Imperial College London)

Wed-P8.2 🕒 16:00–18:00 **OverFlow: Putting flows on top of neural transducers for better TTS**

Shivam Mehta; Ambika Kirkland; Harm Lameris; Jonas Beskow; Éva Székely; Gustav Eje Henter (KTH Royal Institute of Technology)

Wed-P8.3 🕒 16:00–18:00 **ADAPTERMIX: Exploring the Efficacy of Mixture of Adapters for Low-Resource TTS Adaptation**

Ambuj Mehrish (SUTD); Abhinav Ramesh Kashyap (National University of Singapore); Li Yingting (Beijing University of Posts and Telecommunications); Navonil Majumder; Soujanya Poria (Singapore University of Technology and Design)

Wed-P8.4 🕒 16:00–18:00 **Prior-free Guided TTS: An Improved and Efficient Diffusion-based Text-Guided Speech Synthesis**

Won-Gook Choi; So-Jeong Kim; TaeHo Kim; Joon-Hyuk Chang (Hanyang University)

Wed-P8.7 🕒 16:00–18:00 **Interpretable Style Transfer for Text-to-Speech with ControlVAE and Diffusion Bridge**

Wenhao Guan; Tao Li; Yishuang Li; Hukai Huang; Qingyang Hong; Lin Li (Xiamen University)

Wed-P8.8 🕒 16:00–18:00 **Towards Robust FastSpeech 2 by Modelling Residual Multimodality**

Fabian Kögel; Bac Nguyen (Sony Europe B.V.); Fabien Cardinaux (Sony European Technology Center)

Wed-P8.9 🕒 16:00–18:00 **Real time spectrogram inversion on mobile phone**

Oleg Rybakov; Marco Tagliasacchi; Yunpeng Li (Google); Liyang Jiang; Xia Zhang; Fadi Biadsy (Google Research)

Wed-P8.10 🕒 16:00–18:00 **Automatic Tuning of Loss Trade-offs without Hyper-parameter Search in End-to-End Zero-Shot Speech Synthesis**

Seongyeon Park (Seoul National University); Bohyung Kim (CNAI); Tae-Hyun Oh (POSTECH)

Wed-P8.11 🕒 16:00–18:00 **A Low-Resource Pipeline for Text-to-Speech from Found Data With Application to Scottish Gaelic**

Dan Wells; Korin Richmond; William Lamb (University of Edinburgh)

Wed-P8.12 ⌚ 16:00–18:00

Self-Supervised Solution to the Control Problem of Articulatory Synthesis

Paul K. Krug (Technische Universität Dresden); Peter Birkholz (TU Dresden); Branislav Gerazov (UKIM Skopje); Daniel R. van Niekerk (University College London); Anqi Xu (Harbin Institute of Technology); Yi Xu (UCL)

Wed-P8.13 ⌚ 16:00–18:00

Hierarchical Timbre-Cadence Speaker Encoder for Zero-shot Speech Synthesis

Joun Yeop Lee; Jae-Sung Bae; Seongkyu Mun; Jihwan Lee; Ji-Hyun Lee; Hoon-Young Cho (Samsung Research); Chanwoo Kim (Samsung Electronics)

Wed-P8.14 ⌚ 16:00–18:00

ZET-Speech: Zero-shot adaptive Emotion-controllable Text-to-Speech Synthesis with Diffusion and Style-based Models

Minki Kang (AITRICS, KAIST); Wooseok Han (AITRICS); Sung Ju Hwang (KAIST, AITRICS); Eunho Yang (KAIST, AITRICS)

Wed-P8.15 ⌚ 16:00–18:00

Improving Wav-eRNN with Heuristic Dynamic Blending for Fast and High-Quality GPU Vocoding

Muyang Du (NVIDIA); Chuan Liu; Jiaxing Qi (NVIDIA Corporation); Junjie Lai (NVIDIA)

Wed-P8.16 ⌚ 16:00–18:00

Intelligible Lip-to-Speech Synthesis with Speech Units

Jeongsoo Choi; Minsu Kim; Yong Man Ro (KAIST)

Wed-P8.17 ⌚ 16:00–18:00

Parameter-Efficient Learning for Text-to-Speech Accent Adaptation

Li-Jen Yang (National Yang Ming Chiao Tung University); Chao-Han Huck Yang (Georgia Institute of Technology); Jen-Tzung Chien (National Yang Ming Chiao Tung University)

Wed-P8.18 ⌚ 16:00–18:00

Controlling formant frequencies with neural text-to-speech for the manipulation of perceived speaker age

Ziya Khan (Xperi Inc); Lovisa Wihlborg; Cassia Valentini-Botinhao; Oliver Watts (SpeakUnique)

Wed-P8.19 ⌚ 16:00–18:00

FastFit: Towards Real-Time Iterative Neural Vocoder by Replacing U-Net Encoder With Multiple STFTs

Won Jang; Dan Lim; Heayoung Park (Kakao Enterprise Corporation)

Wed-P8.20 ⌚ 16:00–18:00

iSTFTNet2: Faster and More Lightweight iSTFT-Based Neural Vocoder Using 1D-2D CNN

Takuhiro Kaneko (NTT Corporation); Hirokazu Kameoka (NTT Communication Science Laboratories, NTT Corporation); Kou Tanaka (NTT Corporation); Shogo Seki (CyberAgent, Inc.)

Wed-P8.21 ⌚ 16:00–18:00

VITS2: Improving Quality and Efficiency of Single-Stage Text-to-Speech with Adversarial Learning and Architecture Design

Jungil Kong; Jihoon Park; Beomjeong Kim (SK Telecom); Jeongmin Kim (sktelecom); Dohee Kong; Sangjin Kim (SK telecom)

Wed-P8.22 ⌚ 16:00–18:00

Controlling Multi-Class Human Vocalization Generation via a Simple Segment-based Labeling Scheme

Hieu-Thi Luong (National Institute of Informatics); Junichi Yamagishi (National Institute of Informatics)

Wed-P9 - Speech Perception, Production, and Acquisition 2

POSTER

📍 Forum Poster Area 2

📅 Wednesday 23 August 2023 ⌚

16:00–18:00 Session chairs : Felicity Cox

Wed-P9.1 ⌚ 16:00–18:00

First Language Effects on Second Language Perception: Evidence from English Low-vowel Nasal Sequences Perceived by L1 Mandarin Chinese Listeners

Sijia Zhang (UBC)

Wed-P9.2 ⌚ 16:00–18:00

Motor Control Similarity Between Speakers Saying “A Souk” Using Inverse Atlas Tongue Modeling

Ursa Maity (University of British Columbia); Fangxu Xing (Massachusetts General Hospital / Harvard Medical

School); Jerry Prince (Johns Hopkins University); Maureen Stone (University of Maryland); El Fakhri Georges (MGH); Jonghye Woo (Massachusetts General Hospital / Harvard Medical School); Sidney Fels (University of British Columbia)

Wed-P9.3 ⌚ 16:00–18:00 **Assessing Phrase Break of ESL Speech with Pre-trained Language Models and Large Language Models**

Zhiyi Wang (Peking University); Shaoguang Mao; Wen-shan Wu; Yan Xia; Yan Deng; Jonathan Tien (Microsoft)

Wed-P9.4 ⌚ 16:00–18:00 **A Relationship Between Vocal Fold Vibration and Droplet Production**

Tsukasa Yoshinaga (Toyohashi University of Technology); Takayuki Arai (Sophia University); Akiyoshi Iida (Toyohashi University of Technology)

Wed-P9.5 ⌚ 16:00–18:00 **Audio, Visual and Audiovisual intelligibility of vowels produced in noise**

Maeva Garnier (GIPSA-lab)

Wed-P9.6 ⌚ 16:00–18:00 **Optimal control of speech with context-dependent articulatory targets**

Benjamin Elie (University of Edinburgh); Juraj Šimko (University of Helsinki); Alice Turk (University of)

Wed-P9.7 ⌚ 16:00–18:00 **Computational modeling of auditory brainstem responses derived from modified speech**

Tzu-Han Zoe Cheng (UC San Diego); Paul Calamia (Reality Labs Research at Meta)

Wed-P9.8 ⌚ 16:00–18:00 **Leveraging Label Information for Multimodal Emotion Recognition**

Peiyang Wang (JD AI); Sunlu Zeng; Junqing Chen; Lu Fan (JD); Meng Chen (JD AI); Youzheng Wu (CAS); Xiaodong He (JDT)

Wed-P9.9 ⌚ 16:00–18:00 **Improving End-to-End Modeling For Mandarin-English Code-Switching Using Lightweight Switch-Routing Mixture-of-Experts**

Fengyun Tan; Chaofeng Feng; Tao Wei; Shuai Gong; Jinqiang Leng; Wei Chu; Jun Ma (Ping An Technology); Shaojun Wang (PAII Inc.); Jing Xiao (Ping An Insurance (Group) Company of China)

Wed-P9.10 ⌚ 16:00–18:00 **Frequency Patterns of Individual Speaker Characteristics at Higher and Lower Spectral Ranges**

Zhao Zhang (College of Intelligence and Computing, Tianjin University); Ju Zhang (Tianjin University); Ziyu Zhu (College of Intelligence and Computing, Tianjin University); Yujie Chi (Tianjin University); Kiyoshi Honda (School of Computer Science and Technology, Tianjin University, Tianjin, China); Jianguo Wei (School of Computer Software, Tianjin University, Tianjin, China)

Wed-P9.11 ⌚ 16:00–18:00 **Adaptation to predictive prosodic cues in non-native standard dialect**

Sabine Gosselke Berthelsen (Lund University)

Wed-P9.12 ⌚ 16:00–18:00 **Head movements in two- and four-person interactive conversational tasks in noisy and moderately reverberant conditions**

Alan Archer-Boyd (MRC Cognition and Brain Sciences Unit); Rainer Martin (Institute of Communication Acoustics, Ruhr-University Bochum)

Wed-P9.13 ⌚ 16:00–18:00 **Second language identification of Vietnamese tones by native Mandarin learners**

Juqiang Chen (Shanghai Jiao Tong University); Ailing Qin (Guangxi University); Hui Chang (Shanghai Jiao Tong University); Hua Chen (Nanjing University)

Wed-P9.14 ⌚ 16:00–18:00 **Nasal vowel production and grammatical processing in French-speaking children with cochlear implants and normal-hearing peers.**

Sophie Fagniard (University of Mons); Véronique Delvaux (FNRS & UMONS); Brigitte Charlier (Université Libre de Bruxelles); Bernard Harmegnies (UMONS); Anne Huberlant (Comprendre et Parler); Myriam Piccaluga; Kathy Huet (UMONS)

Wed-P9.15 ⌚ 16:00–18:00 **Emotion Classification with EEG Responses Evoked by Emotional Prosody of Speech**

Zechen Zhang; Xihong Wu; Jing Chen (Peking University)

Cong-Thanh Do (Toshiba Research Europe Ltd.); Rama Doddipatla; Mohan Li (Toshiba Europe Ltd); Thomas Hain (University of Sheffield)

Wed-P9.16 🕒 16:00–18:00 **L2-Mandarin regional accent variability during Mandarin tone-word training facilitates English listeners' subsequent tone categorizations**

Yanping Li (Western Sydney University); Michael D. Tyler (Independent Researcher); Denis Burnham; Catherine T. Best (Western Sydney University)

Wed-P10.3 🕒 16:00–18:00 **There is more than one kind of robustness: Fooling Whisper with adversarial examples**

Raphael Olivier (CARNEGIE MELLON UNIVERSITY); Bhiksha Raj (CMU)

Wed-P9.17 🕒 16:00–18:00 **HumanDiffusion: diffusion model using perceptual gradients**

Yota Ueda; Shinnosuke Takamichi (The University of Tokyo); Yuki Saito (The University of Tokyo, Japan); Norihiro Takamune; Hiroshi Saruwatari (The University of Tokyo)

Wed-P10.4 🕒 16:00–18:00 **MT-SLVR: Multi-Task Self-Supervised Learning for Transformation In(Variant) Representations**

Calum Heggan (University Of Edinburgh); Tim Hospedales (Edinburgh University); Sam Budgett (Thales UK RTI); Mehrdad Yaghoobi (University of Edinburgh)

Wed-P9.18 🕒 16:00–18:00 **Queer Events, Relationships, and Sports: Does Topic Influence Speakers' Acoustic Expression of Sexual Orientation?**

Sven Kachel (University of Kaiserslautern-Landau); Manuel Pöhlmann; Christine Nussbaum (Friedrich Schiller University Jena)

Wed-P10.5 🕒 16:00–18:00 **Reducing Barriers to Self-Supervised Learning: HuBERT Pre-training with Academic Compute**

William Chen; Xuankai Chang; Yifan Peng (Carnegie Mellon University); Zhaoheng Ni (Meta AI); Soumi Maiti (CMU); Shinji Watanabe (Carnegie Mellon University)

Wed-P10 - Speech Recognition: Signal Processing, Acoustic Modeling, Robustness, Adaptation 4

POSTER 📍 Forum Poster Area 3

📅 Wednesday 23 August 2023 🕒 16:00–18:00 **Session chairs : Pawel Swietojanski**

Wed-P10.6 🕒 16:00–18:00 **Blank-regularized CTC for Frame Skipping in Neural Transducer**

Yifan Yang; Xiaoyu Yang; Liyong Guo; Zengwei Yao; Wei Kang; Fangjun Kuang; Long Lin (Xiaomi Corp.); Xie Chen (Shanghai Jiaotong University); Daniel Povey (Johns Hopkins University)

Wed-P10.1 🕒 16:00–18:00 **Vistaar: Diverse Benchmarks and Training Sets for Indian Language ASR**

Kaushal Bhogale (Indian Institute of Technology, Madras); Sai Sundaresan; Abhigyan Raman (AI4Bharat); Tahir Javed; Mitesh M. Khapra; Pratyush Kumar (Indian Institute of Technology Madras)

Wed-P10.7 🕒 16:00–18:00 **The Tag-Team Approach: Leveraging CLS and Language Tagging for Enhancing Multilingual ASR**

Kaousheik Jayakumar (Indian Institute of Technology, Madras); Vrunda N. Sukhadia; A Arunkumar (Indian Institute of Technology Madras); S Umesh (IIT Chennai)

Wed-P10.8 🕒 16:00–18:00 **Improving RNN-Transducers with Acoustic LookAhead**

Vinit S. Unni (Indian Institute of Technology Bombay); Ashish Mittal (IBM Research - India); Preethi Jyothi; Sunita Sarawagi (Indian Institute of Technology Bombay)

Wed-P10.2 🕒 16:00–18:00 **Domain Adaptive Self-supervised Training of Automatic Speech Recognition**

Wed-P10.9 🕒 16:00–18:00 **Everyone has an accent**

Nina Markl (University of Edinburgh); Catherine Lai (University of Edinburgh)

Wed-P10.10 ⌚ 16:00–18:00 **Some Voices are Too Common: Building Fair Speech Recognition Systems Using the CommonVoice Dataset**

Lucas Maison (Laboratoire Informatique d'Avignon); Yannick Estève (LIA - Avignon University)

Wed-P10.11 ⌚ 16:00–18:00 **Information Magnitude Based Dynamic Sub-sampling for Speech-to-text**

Yuhao Zhang; Chenghao Gao; Kaiqi Kou (Northeastern University); Chen Xu (Northeastern University, China); Tong Xiao (Northeastern University); Jingbo Zhu (Northeastern University, China)

Thursday 24 August 2023

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Keynote 3 - Martine Grice

What's in a Rise? The Relevance of Intonation for Attention Orienting

📍 **The Auditorium**

📅 Thursday 24 August 2023 ⌚
08:30–09:30

Thu-S1 - Connecting Speech-science and Speech-technology for Children's Speech

SPECIAL 📍 **Liffey Meeting Room 2**

📅 Thursday 24 August 2023 ⌚ 10:00–12:00
Session chairs : Sneha Das, Zhengjun Yue

Thu-S1.WEL ⌚ 10:00–10:05 **Welcome and overview**

Thu-S1.1 ⌚ 10:05–11:15 **Prospective Validation of Motor-Based Intervention with Automated Mispronunciation Detection of Rhotics in Residual Speech Sound Disorders**

Nina R Benway (Syracuse University); Jonathan L Preston (Syracuse University)

Thu-S1.2 ⌚ 10:05–11:15 **Classifying Rhoticity of /ɹ/ in Speech Sound Disorder using Age-and-Sex Normalized Formants**

Nina R Benway; Jonathan L Preston; Asif Salekin; Yi Xiao; Harshit Sharma (Syracuse University); Tara McAllister (New York University)

Thu-S1.3 ⌚ 10:05–11:15 **Acoustic-to-Articulatory Speech Inversion Features for Mispronunciation Detection of /ɹ/ in Child Speech Sound Disorders**

Nina R Benway (Syracuse University); Yashish M Sirkardena (University of Maryland); Jonathan L Preston (Syracuse University); Elaine Hitchcock (Montclair State

University); Tara McAllister (New York University); Carol Espy-Wilson (University of Maryland)

Thu-S1.4 ⌚ 10:05–11:15 **Using Commercial ASR Solutions to Assess Reading Skills in Children: A Case Report**

Timothy Piton (Université de Genève); Enno Hermann (Idiap Research Institute); Angela Pasqualotto; Marjolaine Cohen (Université de Genève); Mathew Magimai-Doss (Idiap Research Institute); Daphné Bavelier (Université de Genève)

Thu-S1.5 ⌚ 10:05–11:15 **Exploiting Diversity of Automatic Transcripts from Distinct Speech Recognition Techniques for Children's Speech**

Christopher Gebauer; Lars Rumberg (Leibniz Universität Hannover); Hanna Ehlert; Ulrike Lüdtkke (Leibniz University Hannover); Joern Ostermann (Leibniz Universität Hannover)

Thu-S1.6 ⌚ 10:05–11:15 **Uncertainty Estimation for Connectionist Temporal Classification Based Automatic Speech Recognition**

Lars Rumberg; Christopher Gebauer (Leibniz Universität Hannover); Hanna Ehlert; Maren Wallbaum; Ulrike Lüdtkke (Leibniz University Hannover); Joern Ostermann (Leibniz Universität Hannover)

Thu-S1.7 ⌚ 10:05–11:15 **BabySLM: language-acquisition-friendly benchmark of self-supervised spoken language models**

Marvin Lavechin (ENS, Meta AI); Yaya Sy (ENS); Hadrien Titeux (CoML); María Andrea Cruz Blandón; Okko Räsänen (Tampere University); Hervé Bredin (CNRS); Emmanuel Dupoux (EHESS, ENS, PSL University, CNRS, INRIA, META); Alejandrina Cristia (Exelang, CNRS, LSCP)

Thu-S1.8 ⌚ 10:05–11:15 **Data augmentation for children ASR and child-adult speaker classification using voice conversion methods**

Shuyang Zhao (Huawei Finland Research Center); Mitul Singh (Huawei Technologies Oy); Abraham Woubie (Huawei); Reima Karhila (Huawei Finland Research Center)

Thu-S1.9 ⌚ 10:05–11:15 **Developmental Articulatory and Acoustic Features for Six to Ten Year Old Children**

Vishwas M. Shetty (UCLA); Steven M. Lulich (Indiana University); Abeer Alwan (UCLA)

Thu-S1.10 10:05–11:15 **Automatically Predicting Perceived Conversation Quality in a Pediatric Sample Enriched for Autism**

Yahan Yang; Sunghye Cho (University of Pennsylvania); Maxine Covello; Azia Knox (Children's Hospital of Philadelphia); Osbert Bastani; James Weimer; Edgar Dobriban; Robert Schultz; Insup Lee; Julia Parish-Morris (University of Pennsylvania)

Thu-S1.11 10:05–11:15 **An Equitable Framework for Automatically Assessing Children's Oral Narrative Language Abilities**

Alexander Johnson; Hariram Veeramani (UCLA); Natara-jan Balaji Shankar (University of California Los Angeles); Abeer Alwan (UCLA)

Thu-S1.12 10:05–11:15 **An Analysis of Goodness of Pronunciation for Child Speech**

Xinwei Cao (NTNU); Zijian Fan (Norwegian University of Science and Technology); Torbjørn Svendsen; Giampiero Salvi (NTNU)

Thu-S1.13 10:05–11:15 **Measuring Language Development From Child-centered Recordings**

Yaya Sy (ENS); William N. Havard (Laboratoire de Sciences Cognitives et de Psycholinguistique, Département d'études cognitives, ENS, EHESS, CNRS, PSL University); Marvin Lavechin (ENS, Meta AI); Emmanuel Dupoux (EHESS, ENS, PSL University, CNRS, INRIA, META); Alejandrina Cristia (Exelang, CNRS, LSCP)

Thu-S1.14 10:05–11:15 **Speaking Clearly, Understanding Better: Predicting the L2 Narrative Comprehension of Chinese Bilingual Kindergarten Children Based on Speech Intelligibility Using a Machine Learning Approach**

Hiuching Hung; Paula A. Pérez-Toro; Tomás Arias-Vergara; Andreas Maier; Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg)

Thu-S1.15 10:05–11:15 **Speech Breathing Behavior During Pauses in Children**

Delphine Charuau (GIPSA Lab); Béatrice Vaxelaire (Université de Strasbourg); Rudolph Sock (Université de Strasbourg / Université Pavol Jozef Šafárik)

Thu-S1.16 10:05–11:15 **Understanding Spoken Language Development of Children with ASD Using Pre-trained Speech Embeddings**

Anfeng Xu; Rajat Hebbar; Rimita Lahiri; Tiantian Feng (University of Southern California); Lindsay Butler; Lue Shen; Helen Tager-Flusberg (Boston University); Shrikanth Narayanan (USC)

Thu-S1.17 10:05–11:15 **Measuring Phonological Precision in Children with Cleft Lip and Palate**

Tomás Arias-Vergara (Friedrich-Alexander-Universität Erlangen-Nürnberg); Elizabeth Londoño-Mora (Universidad de Antioquia); Paula A. Pérez-Toro (Friedrich-Alexander-Universität Erlangen-Nürnberg); María Schuster (Ludwig-Maximilians University); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Juan Rafael Orozco-Arroyave (University of Antioquia); Andreas Maier (Friedrich-Alexander-Universität Erlangen-Nürnberg)

Thu-S1.18 10:05–11:15 **A Study on Using Duration and Formant Features in Automatic Detection of Speech Sound Disorder in Children**

Si-loi Ng (THE CHINESE UNIVERSITY OF HONG KONG); Cymie Wing-Yee Ng (The Hong Kong Polytechnic University); Tan Lee (The Chinese University of Hong Kong)

Thu-S1.19 10:05–11:15 **Influence of Utterance and Speaker Characteristics on the Classification of Children with Cleft Lip and Palate**

Ilja Baumann; Dominik Wagner; Franziska Braun; Sebastian P. Bayerl (Technische Hochschule Nürnberg Georg Simon Ohm); Elmar Nöth (Friedrich-Alexander-Universität Erlangen-Nürnberg); Korbinian Riedhammer; Tobias Bocklet (Technische Hochschule Nürnberg Georg Simon Ohm)

Thu-S1.PAN 11:15–12:00 **Panel discussion**

Thu-O1 - Speech Synthesis: Controllability and Adaptation

ORAL 📍 The Auditorium

📅 Thursday 24 August 2023 ⌚ 10:00–12:00
Session chairs : Sébastien Le Maguer, Erica Cooper

Thu-O1.1 ⌚ 10:00–10:20 **HierVST: Hierarchical Adaptive Zero-shot Voice Style Transfer**

Sang-Hoon Lee; Ha-Yeong Choi; Hyung-Seok Oh; Seong-Whan Lee (Korea University)

Thu-O1.2 ⌚ 10:20–10:40 **ViSinger2: High-Fidelity End-to-End Singing Voice Synthesis Enhanced by Digital Signal Processing Synthesizer**

Yongmao Zhang (Audio, Speech and Language Processing Group (ASLP@NPU), School of Computer Science, Northwestern Polytechnical University, Xi'an, China); Heyang Xue (School of Computer Science, Northwestern Polytechnical University, Xi'an,); Hanzhao Li (Northwestern Polytechnical University); Lei Xie (NWPU); Tingwei Guo (DiDi Chuxing); Ruixiong Zhang (DiDi AI Labs Beijing, China); Caixia Gong (DiDi Chuxing)

Thu-O1.3 ⌚ 10:40–11:00 **EdenTTS: A Simple and Efficient Parallel Text-to-speech Architecture with Collaborative Duration-alignment Learning**

Youneng Ma; Junyi He; Meimei Wu; Guangyue Hu; Haojun Fei (Qifu Technology)

Thu-O1.4 ⌚ 11:00–11:20 **Generalizable Zero-Shot Speaker Adaptive Speech Synthesis with Disentangled Representations**

Wenbin Wang; Yang Song; Sanjay Jha (University of New South Wales)

Thu-O1.5 ⌚ 11:20–11:40 **Speech inpainting: Context-based speech synthesis guided by video**

Juan Felipe Montesinos (Universitat Pompeu Fabra); Daniel Michelsanti (Oticon); Gloria Haro (Universitat Pompeu Fabra); Zheng-Hua Tan; Jesper Jensen (Aalborg University)

Thu-O1.6 ⌚ 11:40–12:00 **STEN-TTS: Improving Zero-shot Cross-Lingual Transfer for Multi-Lingual TTS with Style-Enhanced Normalization Diffusion Framework**

Chung Tran (Japan Advanced Institute of Science and Technology (JAIST)); Chi Mai Luong (ICTLab, University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Cau Giay, Hanoi, Vietnam.); Sakriani Sakti (Japan Advanced Institute of Science and Technology)

Thu-O2 - Search Methods and Decoding Algorithms for ASR

ORAL 📍 Wicklow Hall 2

📅 Thursday 24 August 2023 ⌚ 10:00–12:00
Session chairs : Raphael Olivier, Tamas Grosz

Thu-O2.1 ⌚ 10:00–10:20 **Average Token Delay: A Latency Metric for Simultaneous Translation**

Yasumasa Kano (Nara Institute of Science and Technology); Katsuhito Sudoh (Nara Institute of Science and Technology); Satoshi Nakamura (Nara Institute of Science and Technology, Japan)

Thu-O2.2 ⌚ 10:20–10:40 **Automatic Speech Recognition Transformer with Global Contextual Information Decoder**

Yukun Qian; Xuyi Zhuang (Harbin Institute of Technology (Shenzhen)); Mingjiang Wang (Harbin Institute of Technology Shenzhen)

Thu-O2.3 ⌚ 10:40–11:00 **Time-synchronous one-pass Beam Search for Parallel Online and Offline Transducers with Dynamic Block Training**

Yui Sudo; Shakeel Muhammad (Honda Research Institute Japan); Yifan Peng; Shinji Watanabe (Carnegie Mellon University)

Thu-O2.4 ⌚ 11:00–11:20 **Prefix Search Decoding for RNN Transducers**

Kiran Praveen (Samsung R&D Institute Bangalore); Advait Vinay Dhopeswarkar; Abhishek Pandey; Balaji Radhakrishnan (Samsung R&D Institute)

Thu-O2.5 🕒 11:20–11:40 **WhisperX: Time-Accurate Speech Transcription of Long-Form Audio**

Max Bain; Jaesung Huh; Tengda Han; Andrew Zisserman (University of Oxford)

Thu-O2.6 🕒 11:40–12:00 **Implementing Contextual Biasing in GPU Decoder for Online ASR**

Iuliia Nigmatulina (Idiap Research Institute); Srikanth Madikeri (Idiap); Esaú Villatoro-Tello (Idiap Research Institute); Petr Motlicek (Idiap); Juan Zuluaga-Gomez (Idiap Research Institute); Karthik Pandia; Aravind Ganapathiraju (Uniphore)

Thu-O3 - Speech Signal Analysis

ORAL 📍 Liffey Hall 2

📅 Thursday 24 August 2023 🕒 10:00–12:00
Session chairs : S Pavankumar Dubagunta, Catherine Watson

Thu-O3.1 🕒 10:00–10:20 **MF-PAM: Accurate Pitch Estimation through Periodicity Analysis and Multi-level Feature Fusion**

Woo-Jin Chung; Doyeon Kim (Yonsei University); Soo-Whan Chung (Naver Corporation); Hong-Goo Kang (Yonsei University)

Thu-O3.2 🕒 10:20–10:40 **Enhancing Speech Articulation Analysis Using A Geometric Transformation of the X-ray Microbeam Dataset**

Ahmed Adel Attia (University Of Maryland College Park); Mark Tiede (Haskins Laboratories); Carol Espy-Wilson (University of Maryland)

Thu-O3.3 🕒 10:40–11:00 **Matching Acoustic and Perceptual Measures of Phonation Assessment in Disordered Speech - A Case Study**

Melanie Jouaiti; Pippa Kirby; Ravi Vaidyanathan (Imperial College London)

Thu-O3.4 🕒 11:00–11:20 **Improved Contextualized Speech Representations for Tonal Analysis**

Jiahong Yuan (University of Science and Technology of China); Xingyu Cai (Baidu Research); Kenneth Church (Northeastern University)

Thu-O3.5 🕒 11:20–11:40 **A Study on the Importance of Formant Transitions for Stop-Consonant Classification in VCV Sequence**

Siddarth Chandrasekar (Robert Bosch Centre for Data Science and AI, Indian Institute of Technology Madras); Arvind Ramesh (Georgia Institute of Technology); Tilak Purohit (Idiap Research Institute); Prasanta Kumar Ghosh (Indian Institute of Science (IISc), Bangalore)

Thu-O3.6 🕒 11:40–12:00 **FusedF0: Improving DNN-based F0 Estimation by Fusion of Summary-Correlograms and Raw Waveform Representations of Speech Signals**

Eray Eren (University of California, Los Angeles); Lee Ngee Tan (University of California); Abeer Alwan (UCLA)

Thu-O4 - Speech Emotion Recognition 3

ORAL 📍 Liffey Hall 1

📅 Thursday 24 August 2023 🕒 10:00–12:00
Session chairs : Jan Cernocky, Ahmed Ali

Thu-O4.1 🕒 10:00–10:20 **Improving Joint Speech and Emotion Recognition Using Global Style Tokens**

Jehyun Kyung; Ju-Seok Seong; Jeong-Hwan Choi; Ye-Rin Jeoung; Joon-Hyuk Chang (Hanyang University)

Thu-O4.2 🕒 10:20–10:40 **Speech Emotion Recognition by Estimating Emotional Label Sequences with Phoneme Class Attribute**

Ryotaro Nagase; Takahiro Fukumori; Yoichi Yamashita (Ritsumeikan University)

Thu-O4.3 🕒 10:40–11:00 **Unsupervised Transfer Components Learning for Cross-Domain Speech Emotion Recognition**

Shenjie Jiang; Peng Song (Yantai University); Shaokai Li (Yantai University); Keke Zhao (Yantai University); Wenming Zheng (Southeast University)

Thu-O4.4 🕒 11:00–11:20 **Dual Memory Fusion for Multimodal Speech Emotion Recognition**

Darshana Prisyad; Tharindu Fernando (Queensland University of Technology); Sridha Sridharan (QUT); Simon Denman (Queensland University of Technology, Australia); Clinton Fookes (Queensland University of Technology)

Thu-O4.5 🕒 11:20–11:40 **Hybrid Dataset for Speech Emotion Recognition in Russian Language**

Vladimir Kondratenko (Sber); Nikolay Karpov (Nvidia); Artem Sokolov; Nikita Savushkin; Oleg Kutuzov; Fyodor Minkin (Sber)

Thu-O4.6 🕒 11:40–12:00 **Speech Emotion Recognition using Decomposed Speech via Multi-task Learning**

Jia-Hao Hsu (Department of Computer Science and Information Engineering, National Cheng Kung University); Chung-Hsien Wu; Yu-Hung Wei (National Cheng Kung University)

Thu-O5 - Dialog Management

ORAL 📍 Wicklow Hall 1

📅 Thursday 24 August 2023 🕒 10:00–12:00
Session chairs : Štefan Beňuš, Jonas Beskow

Thu-O5.1 🕒 10:00–10:20 **Parameter-Efficient Low-Resource Dialogue State Tracking by Prompt Tuning**

Mingyu Derek Ma (UCLA); Jiun-Yu Kao; Shuyang Gao; Arpit Gupta (amazon); Di Jin (Amazon Alexa AI); Tagyoung Chung (Amazon); Nanyun Peng (UCLA)

Thu-O5.2 🕒 10:20–10:40 **An Autoregressive Conversational Dynamics Model for Dialogue Systems**

Matthew McNeill (CUNY Graduate Center); Rivka Levitan (City university of new york)

Thu-O5.3 🕒 10:40–11:00 **Style-transfer based Speech and Audio-visual Scene understanding for Robot Action Sequence Acquisition from Videos**

Chiori Hori (Mitsubishi Electric Research Laboratories (MERL)); Puyuan Peng; David Harwath (The University of Texas at Austin); Xinyu Liu (Brown University); Kei Ota (Mitsubishi Electric); Siddarth Jain; Radu Corcodel; Devesh Jha; Diego Romeres (MERL); Jonathan Le Roux (Mitsubishi Electric Research Laboratories (MERL))

Thu-O5.4 🕒 11:00–11:20 **Speech Aware Dialog System Technology Challenge (DSTC11)**

Hagen Soltau (Google); Izhak Shafran (Google AI); Mingqiu Wang (Google Inc); Abhinav Rastogi (Google); Jeffrey Zhao (Google DeepMind); Ye Jia (tomato.ai); Wei Han (Google); Yuan Cao (Google Brain); Aramys Miranda (Google DeepMind)

Thu-O5.5 🕒 11:20–11:40 **Knowledge-Retrieval Task-Oriented Dialog Systems with Semi-Supervision**

Yucheng Cai; Hong Liu; Zhijian Ou (Tsinghua University); Yi Huang; Junlan Feng (China Mobile Research)

Thu-O5.6 🕒 11:40–12:00 **Tracking Must Go On : Dialogue State Tracking with Verified Self-Training**

Jihyun Lee (Pohang University of Science and Technology); Chaebin Lee; Yunsu Kim; Gary Geunbae Lee (Postech)

Thu-O6 - Speaker Recognition 2

ORAL 📍 EcoCem Room

📅 Thursday 24 August 2023 🕒 10:00–12:00
Session chairs : Oldrich Plchot, Joon Son Chung

Thu-O6.1 🕒 10:00–10:20 **Ordered and Binary Speaker Embedding**

Jiaying Wang (THU & BUPT); Xianglong Wang (BUPT); Namin Wang (Huawei Cloud); Lantian Li (Beijing University of Posts and Telecommunications); Dong Wang (Tsinghua University)

Thu-O6.2 🕒 10:20–10:40 **Self-FiLM: Conditioning GANs with self-supervised representations for bandwidth extension based speaker recognition**

Saurabh Kataria; Jesús Villalba; Laureano Morovelazquez; Thomas Thebaud; Najim Dehak (Johns Hopkins University)

Thu-O6.3 🕒 10:40–11:00 **Curriculum Learning for Self-supervised Speaker Verification**

Hee-Soo Heo (Naver Corp.); Jee-weon Jung (Carnegie Mellon University); Jingu Kang (Naver Corp.); Young-ki Kwon; Bong-Jin Lee; You Jin Kim (Naver Corporation); Joon Son Chung (KAIST)

Thu-O6.4 🕒 11:00–11:20 **Introducing Self-Supervised Phonetic Information for Text-Independent Speaker Verification**

Ziyang Zhang; Wu Guo; Bin Gu (University of Science and Technology of China)

Thu-O6.5 🕒 11:20–11:40 **A Teacher-Student Approach for Extracting Informative Speaker Embeddings From Speech Mixtures**

Tobias Cord-Landwehr; Christoph Boeddeker (Paderborn University); Cătălin Zorilă (Toshiba Cambridge Research Laboratory); Rama Doddipatla (Toshiba Europe LTD); Reinhold Haeb-Umbach (Paderborn University)

Thu-O6.6 🕒 11:40–12:00 **Experimenting with Additive Margins for Contrastive Self-Supervised Speaker Verification**

Theo Lepage (LRE - EPITA); Reda Dehak (LRE - EPITA)

Thu-P1 - Speech Synthesis: Expressivity

POSTER 📍 Forum Poster Area 1

📅 Thursday 24 August 2023 🕒 10:00–12:00
Session chairs : Yusuke Yasuda

Thu-P1.1 🕒 10:00–12:00 **Controllable Generation of Artificial Speaker Embeddings through Discovery of Principal Directions**

Florian Lux; Pascal Tilli; Sarina Meyer; Ngoc Thang Vu (University of Stuttgart)

Thu-P1.2 🕒 10:00–12:00 **Dual Audio Encoders Based Mandarin Prosodic Boundary Prediction by Using Multi-Granularity Prosodic Representations**

Ruishan Li (Beijing Language and Culture University); Yingming Gao (Beijing University of Posts and Telecommunications); Yanlu Xie; Dengfeng Ke; Jinsong Zhang (Beijing Language and Culture University)

Thu-P1.3 🕒 10:00–12:00 **NoreSpeech: Knowledge Distillation based Conditional Diffusion Model for Noise-robust Expressive TTS**

Dongchao Yang (Peking university); Songxiang Liu (Tencent); Helin Wang (Johns Hopkins University); Jianwei Yu; Chao Weng (Tencent AI Lab); Yuexian Zou (Peking University)

Thu-P1.4 🕒 10:00–12:00 **MaskedSpeech: Context-aware Speech Synthesis with Masking Strategy**

Ya-Jie Zhang (JD.com); Wei Song; Yanghao Yue (JD Technology Group); Zhengchen Zhang (JD.com); Youzheng Wu (JD AI Research); Xiaodong He (JD Technology Group)

Thu-P1.5 🕒 10:00–12:00 **Narrator or Character: Voice Modulation in an Expressive Multi-speaker TTS**

Tankala Pavan Kalyan (IIT Bombay); Preeti Rao; Preethi Jyothi (Indian Institute of Technology Bombay); Pushpak Bhattacharyya (IIT Bombay)

Thu-P1.6 🕒 10:00–12:00 **CASEIN: Cascading Explicit and Implicit Control for Fine-grained Emotion Intensity Regulation**

Yuhao Cui (Alibaba DAMO Academy); Xiongwei Wang (alibaba); Zhongzhou Zhao (Alibaba Group); Wei Zhou (Alibaba); Haiqing Chen (Alibaba Inc.)

Thu-P1.7 🕒 10:00–12:00 **Semi-supervised Learning for Continuous Emotional Intensity Controllable Speech Synthesis with Disentangled Representations**

Yoori Oh; Juheon Lee (Seoul National University); Yoseob Han (Soongsil University); Kyogu Lee (Seoul National University)

Thu-P1.8 🕒 10:00–12:00 **Espresso: A Benchmark and Analysis of Discrete Expressive Speech Resynthesis**

Tu Anh Nguyen (INRIA & Facebook AI Research, Paris, France); Wei-Ning Hsu (Meta); Antony D'Avirro; Bowen Shi (Meta AI); Itai Gat; Maryam Fazel-Zarani; Tal Remez (Meta); Jade Copet; Gabriel Synnaeve (Meta AI); Michael Hassid (Meta); Felix Kreuk (Meta AI); Yossi Adi (Facebook AI Research); Emmanuel Dupoux (EHESS, ENS, PSL University, CNRS, INRIA, META)

Thu-P1.9 10:00–12:00

ComedicSpeech: Text To Speech For Stand-up Comedies in Low-Resource Scenarios

Yuyue Wang; Huan Xiao; Yihan Wu; Ruihua Song (Renmin University of China)

Thu-P1.10 10:00–12:00

Neural Speech Synthesis with Enriched Phrase Boundaries

Marie Kunešová (University of West Bohemia); Jindřich Matoušek (University of West Bohemia)

Thu-P1.11 10:00–12:00

Cross-lingual Prosody Transfer for Expressive Machine Dubbing

Jakub Swiatkowski (Amazon); Duo Wang (Amazon Inc); Mikolaj Babianski; Patrick Lumban Tobing; Ravichander Vipperla (Amazon); Vincent Pollet (Amazon Science)

Thu-P1.12 10:00–12:00

Synthesis after a couple PINTs: Investigating the Role of Pause-Internal Phonetic Particles in Speech Synthesis and Perception

Mikey Elmers (Saarland University); Johannah O'Mahony (University of Edinburgh); Éva Székely (KTH Royal Institute of Technology)

Thu-P1.13 10:00–12:00

Accentor: An Explicit Lexical Stress Model for TTS Systems

Diana Geneva (Chaos); Georgi Shopov (IICT, Bulgarian Academy of Sciences); Kostadin Garov (INSAIT, Sofia University); Maria Todorova (IBL, Bulgarian Academy of Sciences); Stefan Gerdjikov (FMI, Sofia University); Stoyan Mihov (IICT, Bulgarian Academy of Sciences)

Thu-P1.14 10:00–12:00

A Neural TTS System with Parallel Prosody Transfer from Unseen Speakers

Slava Shechtman (IBM Research); Raul Fernandez (IBM Research AI)

Thu-P1.15 10:00–12:00

Diverse and Expressive Speech Prosody Prediction with Denoising Diffusion Probabilistic Model

Xiang Li (Tsinghua University); Songxiang Liu (Tencent); Max W. Y. Lam (Tencent AI Lab); Zhiyong Wu (Tsinghua University); Chao Weng (Tencent AI Lab); Helen Meng (The Chinese University of Hong Kong)

Thu-P1.16 10:00–12:00

Prosody Modeling with 3D Visual Information for Expressive Video Dubbing

Zhihan Yang (tsinghua); Shansong Liu (Tencent PCG ARC); Xu Li (ARC Lab, Tencent); Haozhe Wu; Zhiyong Wu (Tsinghua University); Ying Shan (Tencent); Jia Jia (Tsinghua University)

Thu-P1.17 10:00–12:00

LightClone: Speaker-guided Parallel Subnet Selection for Few-shot Voice Cloning

Jie Wu; Jian Luan; Yujun Wang (Xiaomi AI Lab)

Thu-P1.18 10:00–12:00

EE-TTS: Emphatic Expressive TTS with Linguistic Information

Yi Zhong (Tencent AI Lab); Chen Zhang (Zhejiang University); Xule Liu; Chenxi Sun; Weishan Deng (tencent); Haifeng Hu; Zhongqian Sun (Tencent AI Lab)

Thu-P1.19 10:00–12:00

Stochastic Pitch Prediction Improves the Diversity and Naturalness of Speech in Glow-TTS

Sewade Ogun (Inria); Vincent Colotte (LORIA); Emmanuel Vincent (Inria)

Thu-P1.20 10:00–12:00

ContextSpeech: Expressive and Efficient Text-to-Speech for Paragraph Reading

Yujia Xiao (The Chinese University of Hong Kong); Shaofei Zhang (MS); Xi Wang (Microsoft Cloud and AI); Xu Tan (Microsoft Research Asia); Lei He (Microsoft Cloud and AI); Sheng Zhao (Microsoft); Frank K. Soong (Microsoft Research Asia); Tan Lee (The Chinese University of Hong Kong)

Thu-P1.21 10:00–12:00

PromptStyle: Controllable Style Transfer for Text-to-Speech with Natural Language Descriptions

Guanghou Liu (Northwestern Polytechnical University); Yongmao Zhang (Audio, Speech and Language Processing Group (ASLP@NPU), School of Computer Science, Northwestern Polytechnical University, Xi'an, China); Yi Lei (Northwestern Polytechnical University); Yunlin Chen; Rui Wang (Mobvoi); Lei Xie (NWPU); Zhifei Li (Mobvoi)

Thu-P1.22 10:00–12:00

Creating Personalized Synthetic Voices from Post-Glossectomy Speech with Guided Diffusion Models

Yusheng Tian; Guangyan Zhang; Tan Lee (The Chinese University of Hong Kong)

Thu-P2 - Phonetics, Phonology, and Prosody 2

POSTER 📍 Forum Poster Area 2

📅 Thursday 24 August 2023 ⌚ 10:00–12:00
Session chairs : Sofoklis Kakourou

Thu-P2.1 ⌚ 10:00–12:00 **Nonbinary American English speakers encode gender in vowel acoustics**

Maxwell Hope (University of Delaware); Charlotte Ward; Jason Lilley (The Nemours Foundation)

Thu-P2.2 ⌚ 10:00–12:00 **Coarticulation of Sibilant Vowels and Dorsal Fricatives in Spontaneous Speech: An Acoustic Study**

Jared Sharp; Matthew Faytak (University at Buffalo); Hsueh-tai Fei Xiong Liu (Independent Researcher)

Thu-P2.3 ⌚ 10:00–12:00 **Using speech synthesis to explain automatic speaker recognition: a new application of synthetic speech**

Georgina Brown (Lancaster University & Soundscape Voice Evidence); Christin Kirchhübel (Soundscape Voice Evidence); Ramiz Cuthbert (Lancaster University)

Thu-P2.4 ⌚ 10:00–12:00 **Same F0, Different Tones: A Multidimensional Investigation of Zhangzhou Tones**

Yishan Huang (University of Sydney)

Thu-P2.5 ⌚ 10:00–12:00 **Discovering Phonetic Feature Event Patterns in Transformer Embeddings**

Patrick Cormac English (UCD); John D. Kelleher (Technological University Dublin); Julie Carson-Berndsen (University College Dublin)

Thu-P2.6 ⌚ 10:00–12:00 **A System for Generating Voice Source Signals that Implements the Transformed LF-model Parameter Control**

Zihan Wang (Trinity College Dublin); Christer Gobl (Trinity College Dublin)

Thu-P2.7 ⌚ 10:00–12:00 **Speaker-independent Speech Inversion for Estimation of Nasalance**

Yashish M Siriwardena; Carol Espy-Wilson (University of Maryland); Suzanne Boyce (University of Cincinnati); Mark Tiede (Haskins Laboratories); Liran Oren (University of Cincinnati)

Thu-P2.8 ⌚ 10:00–12:00 **Effects of Tonal Coarticulation and Prosodic Positions on Tonal Contours of Low Rising Tones: In the Case of Xiamen Dialect**

Yiyang Hu; Hui Feng; Qinghua Zhao (Tianjin University); Aijun Li (Institute of Linguistics, CASS)

Thu-P2.9 ⌚ 10:00–12:00 **Durational and Non-durational Correlates of Lexical and Derived Geminate in Arabic**

Amel Issa (University of Gharyan)

Thu-P2.10 ⌚ 10:00–12:00 **Mapping Phonemes to Acoustic Symbols and Codes Using Synchrony in Speech Modulation Vectors Estimated by the Travellingwave Filter Bank**

Ashwin Rao (Travellingwave)

Thu-P2.11 ⌚ 10:00–12:00 **Rhythmic Characteristics of L2 German Speech by Advanced Chinese Learners**

Lindun Ge; Min Xu (Shanghai International Studies University); Hongwei Ding (Shanghai Jiao Tong University)

Thu-P2.12 ⌚ 10:00–12:00 **(Dis)agreement and Preference Structure are Reflected in Matching Along Distinct Acoustic-prosodic Features**

Anneliese Kelterer (University of Graz); Margaret Zellers (Kiel University); Barbara Schuppler (Graz University of Technology)

Thu-P2.13 ⌚ 10:00–12:00 **Vowel reduction by Greek-speaking children: The effect of stress and word length**

Polychronia Christodoulidou; Katerina Nicolaidis; Dimitrios Stamovlasis (Aristotle University of Thessaloniki)

Thu-P2.14 ⌚ 10:00–12:00 **Pitch distributions in a very large corpus of spontaneous Finnish speech**

Mietta Lennes (University of Helsinki); Minnaleena Toivola (University of Helsinki)

Thu-P2.15 ⌚ 10:00–12:00 **Speech Enhancement Patterns in Human-Robot Interaction: A Cross-Linguistic Perspective**

Jacek Kudera; Katharina Zahner-Ritter; Jakob Engel; Nathalie Elsässer; Philipp Hutmacher; Carolin Worstbrock (Trier University)

Thu-P3 - Speech Recognition: Signal Processing, Acoustic Modeling, Robustness, Adaptation 5

POSTER 📍 Forum Poster Area 3

📅 Thursday 24 August 2023 ⌚ 10:00–12:00
Session chairs : Chao Zhang

Thu-P3.1 ⌚ 10:00–12:00 **Towards Multi-task Learning of Speech and Speaker Recognition**

Nik Vaessen (Radboud University); David A. van Leeuwen (Radboud University)

Thu-P3.2 ⌚ 10:00–12:00 **Regarding Topology and Variant Frame Rates for Differentiable WFST-based End-to-End ASR**

Zeyu Zhao (University of Edinburgh); Peter Bell (University of Edinburgh)

Thu-P3.3 ⌚ 10:00–12:00 **2-bit Conformer quantization for automatic speech recognition**

Oleg Rybakov; Phoenix Meadowlark; Shaojin Ding; David Qiu (Google); Jian Li (Google Inc.); David Rim (Google Research); Yanzhang He (Google)

Thu-P3.4 ⌚ 10:00–12:00 **Time-Domain Speech Enhancement for Robust Automatic Speech Recognition**

Yufeng Yang; Ashutosh Pandey (The Ohio State University); DeLiang Wang (Ohio State University)

Thu-P3.5 ⌚ 10:00–12:00 **Multi-channel multi-speaker transformer for speech recognition**

Guo Yifan; Tian Yao; Suo Hongbin; Wan Yulong (OPPO)

Thu-P3.6 ⌚ 10:00–12:00 **Fake the Real: Backdoor Attack on Deep Speech Classification via Voice Conversion**

Zhe Ye (Ningbo University); Terui Mao (Ningbo City College of Vocational Technology); Li Dong; Diqun Yan (Ningbo University)

Thu-P3.7 ⌚ 10:00–12:00 **Dialect Speech Recognition Modeling using Corpus of Japanese Dialects and Self-Supervised Learning-based Model XLSR**

Shogo Miwa (Shizuoka University); Atsuhiko Kai (Shizuoka University)

Thu-P3.8 ⌚ 10:00–12:00 **Contextualized End-to-End Speech Recognition with Contextual Phrase Prediction Network**

Kaixun Huang (NWPU); Ao Zhang; Zhanheng Yang; Pengcheng Guo; Bingshen Mu (Northwestern Polytechnical University); Tianyi Xu; Lei Xie (NWPU)

Thu-P3.9 ⌚ 10:00–12:00 **Competitive and Resource Efficient Factored Hybrid HMM Systems are Simpler Than You Think**

Tina Raissi (RWTH Aachen University); Christoph Lüscher (Informatik 6, RWTH Aachen University); Moritz Gunz; Ralf Schlüter; Hermann Ney (RWTH Aachen University)

Thu-P3.10 ⌚ 10:00–12:00 **MMSpeech: Multi-modal Multi-task Encoder-Decoder Pre-training for speech recognition**

Xiaohuan Zhou; Jiaming Wang; Zeyu Cui; Shiliang Zhang (Alibaba Group); Zhijie Yan (Alibaba Inc.); Jingren Zhou; Chang Zhou (Alibaba Group)

Thu-P3.11 ⌚ 10:00–12:00 **Biased Self-supervised Learning for ASR**

Florian L. Kreyssig (University of Cambridge); Yangyang Shi (Facebook); Jinxi Guo (Meta AI); Leda Sari; Abdelrahman Mohamed (Facebook); Philip C. Woodland (Machine Intelligence Laboratory, Cambridge University Department of Engineering)

Thu-P3.12 ⌚ 10:00–12:00 **A Unified Recognition and Correction Model under Noisy and Accent Speech Conditions**

Zhao Yang (Xi'an Jiaotong University); Dianwen Ng (Alibaba Group/Nanyang Technological University); Chong Zhang (Speech Lab of DAMO Academy, Alibaba Group); Rui Jiang; Wei Xi (Xi'an Jiaotong University); Yukun Ma (Alibaba Group); Chongjia Ni (Alibaba); Jizhong Zhao (Xi'an Jiaotong University); Bin Ma (Alibaba, Singapore R&D Center); Eng Siong Chng (Nanyang Technological University)

Thu-P3.13 ⌚ 10:00–12:00 **wav2vec 2.0 ASR for Cantonese-Speaking Older Adults in a Clinical Setting**

Ranzo Huang (The Hong Kong University of Science and Technology); Brian Mak (The Hong Kong University of Science and Technology)

Thu-P3.14 ⌚ 10:00–12:00 **BAT: Boundary aware transducer for memory-efficient and low-latency ASR**

Keyu An (alibaba); Xian Shi; Shiliang Zhang (Alibaba Group)

Thu-P3.15 ⌚ 10:00–12:00 **Bayes Risk Transducer: Transducer with Controllable Alignment Prediction**

Jinchuan Tian; Jianwei Yu (Tencent AI lab); Hangting Chen (Tencent ASSP OTeam); Brian Yan (Carnegie Mellon University); Chao Weng; Dong Yu (Tencent AI Lab); Shinji Watanabe (Carnegie Mellon University)

Thu-P3.16 ⌚ 10:00–12:00 **Multi-View Frequency Attention Alternative to CNN Frontends for Automatic Speech Recognition**

Belen Alastruey (Universitat Politècnica de Catalunya); Lukas Drude (Amazon); Jahn Heymann; Simon Wiesler (Amazon Alexa)

Thu-P4 - Speech, Voice, and Hearing Disorders 2

POSTER 📍 Forum Poster Area 4

📅 Thursday 24 August 2023 ⌚ 10:00–12:00
Session chairs : Sunhee Kim

Thu-P4.1 ⌚ 10:00–12:00 **Investigating the dynamics of hand and lips in French Cued Speech using attention mechanisms and CTC-based decoding**

Sanjana Sankar; Denis Beautemps; Frédéric Elisei; Olivier Perrotin; Thomas Hueber (Univ. Grenoble Alpes, CNRS, Grenoble INP, GIPSA-lab)

Thu-P4.2 ⌚ 10:00–12:00 **Hearing Loss Affects Emotion Perception in Older Adults: Evidence from a Prosody-Semantics Stroop Task**

Yingyang Wang (Key Laboratory of Human-Machine Intelligence-Synergy Systems, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Min Xu (Shanghai International Studies University); Jing Shao (Hong Kong Baptist University); Lan Wang (Key Laboratory of Human-Machine Intelligence-Synergy Systems, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Nan Yan (Key Laboratory of Human-Machine Intelligence-Synergy Systems, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences)

Thu-P4.3 ⌚ 10:00–12:00 **Cochlear-implant Listeners Listening to Cochlear-implant Simulated Speech**

Fanhui Kong; Nengheng Zheng (Shenzhen University); Xianren Wang (Sun Yat-Sen University); Hao He (Shenzhen University); Jan W. H. Schnupp (City University of Hong Kong); Qinglin Meng (South China University of Technology)

Thu-P4.4 ⌚ 10:00–12:00 **Validation of a Task-Independent Cepstral Peak Prominence Measure with Voice Activity Detection**

Olivia M. Murton; Abigail E. Haenssler; Marc F. Maffei; Kathryn P. Connaghan; Jordan Green (MGH Institute of Health Professions)

Thu-P4.5 ⌚ 10:00–12:00 **Score-balanced Loss for Multi-aspect Pronunciation Assessment**

Heejin Do; Yunsu Kim; Gary Geunbae Lee (Postech)

Thu-P4.6 ⌚ 10:00–12:00 **Federated Learning for Secure Development of AI Models for Parkinson's Disease Detection Using Speech from Different Languages**

Soroosh Tayebi Arasteh (Friedrich-Alexander-Universität Erlangen-Nürnberg); Cristian David Ríos-Urrego (University of Antioquia); Elmar Nöth; Andreas Maier (Friedrich-Alexander-Universität Erlangen-Nürnberg); Seung Hee Yang (Friedrich-Alexander Universität Erlangen-Nürnberg (FAU)); Jan Ruzs (Czech Technical University in Prague); Juan Rafael Orozco-Aroyave (University of Antioquia)

Thu-P4.7 10:00–12:00 **F0inTFS: A light-weight periodicity enhancement strategy for cochlear implants**

Huali Zhou; Fanhui Kong; Nengheng Zheng (Shenzhen University); Qinglin Meng (South China University of Technology)

Thu-P4.8 10:00–12:00 **Differentiating acoustic and physiological features in speech for hypoxia detection**

Benjamin O'Brien (Laboratoire Informatique d'Avignon); Adrien Gresse; Jean-Baptiste Billaud; Guilhem Belda (Semaxone); Jean-François Bonastre (Université d'Avignon)

Thu-P4.9 10:00–12:00 **Mandarin Electrolaryngeal Speech Voice Conversion using Cross-domain Features**

Hsin-Hao Chen; Yung-Lun Chien (National Yang Ming Chiao Tung University); Ming-Chi Yen (Academia Sinica); Shu-Wei Tsai (National Cheng Kung University Hospital); Tai-shih Chi (National Chiao Tung University); Hsin-Min Wang; Yu Tsao (Academia Sinica)

Thu-P4.10 10:00–12:00 **Audio-Visual Mandarin Electrolaryngeal Speech Voice Conversion**

Yung-Lun Chien; Hsin-Hao Chen (National Yang Ming Chiao Tung University); Ming-Chi Yen (Academia Sinica); Shu-Wei Tsai (National Cheng Kung University Hospital); Hsin-Min Wang; Yu Tsao (Academia Sinica); Tai-shih Chi (National Chiao Tung University)

Thu-P4.11 10:00–12:00 **Which aspects of motor speech disorder are captured by Mel Frequency Cepstral Coefficients? Evidence from the change in STN-DBS conditions in Parkinson's disease**

Vojtěch Illner; Petr Krýže (Czech Technical University in Prague); Jan Švihlík (University of Chemistry and Technology, Czechia); Mário Sousa; Paul Krack (University

Hospital of Bern); Elina Tripoliti (University College London); Robert Jech (Charles University, Czechia); Jan Ruzs (Czech Technical University in Prague)

Thu-P4.12 10:00–12:00 **Detecting Manifest Huntington's Disease Using Vocal Data**

Vinod Subramanian; Namhee Kwon; Raymond Brueckner; Nate Blaylock; Henry O'Connell (Canary Speech); Luis Sierra; Clementina Ullman; Karen Hildebrand (Beth Israel Deaconess Medical Center); Simon Laganieri (BIDMC)

Thu-P4.13 10:00–12:00 **Exploring multi-task learning and data augmentation in dementia detection with self-supervised pre-trained models**

Minchuan Chen (Ping An Technology); Chenfeng Miao (PingAn Technology); Jun Ma (Ping An Technology); Shaojun Wang (PAII Inc.); Jing Xiao (Ping An Insurance (Group) Company of China)

Thu-S2 - Neural Processing of Speech and Language: Encoding and Decoding the Diverse Auditory Brain

SPECIAL

📍 Liffey Meeting Room 2

📅 Thursday 24 August 2023 13:30–15:30
Session chairs : Giovanni Di Liberto, Alejandro Lopez Valdes

Thu-S2.WEL 13:30–13:35 **Welcome and overview**

Thu-S2.1 13:35–13:50 **Oral** **MEG Encoding using Word Context Semantics in Listening Stories**

Subba Reddy Oota (IIIT Hyderabad); Nathan Trouvain (Inria); Frederic Alexandre (INRIA Bordeaux Sud-Ouest); Xavier Hinaut (Inria)

Thu-S2.2 13:50–14:05 **Oral** **Investigating the cortical tracking of speech and music with sung speech**

Giorgia Cantisani (LSP, ENS, PSL); Amirhossein Chalechaleh (Trinity College Dublin); Giovanni Di Liberto (TCD - ADAPT); Shihab Shamma (Ecole Normale Supérieure)

Thu-S2.3 ⌚ 14:05–14:20

Oral

Coherence Estimation Tracks Auditory Attention in Listeners with Hearing Impairment

Oskar Keding (Centre for Mathematical Science); Emmina Alickovic (Eriksholm Research Centre, Oticon A/S, Snekkersten); Martin A. Skoglund (Linköping University); Maria Sandsten (Lund University)

Thu-S2.4 ⌚ 14:20–14:35

Oral

Speech Taskonomy: Which Speech Tasks are the most Predictive of fMRI Brain Activity?

Subba Reddy Oota; Veeral Agarwal; Mounika Marreddy (IIIT Hyderabad); Manish Gupta (Microsoft, India); Raju Bapi (International Institute of Information Technology Hyderabad)

Thu-S2.PP ⌚ 14:35–14:50

Poster pitches

Thu-S2.5 ⌚ 14:50–15:30

Poster

Exploring Auditory Attention Decoding using Speaker Features

Zelin Qiu (IACAS); Jianjun Gu (University of Chinese Academy of Sciences); Dingding Yao (Institute of Acoustics, Chinese Academy of Sciences); Junfeng Li (University of Chinese Academy of Sciences)

Thu-S2.6 ⌚ 14:50–15:30

Poster

Enhancing the EEG Speech Match Mismatch Tasks With Word Boundaries

Akshara Soman (Indian Institute of Science, Bangalore, India, 560012); Vidhi Sinha (Indian Institute of Science); Sriram Ganapathy (Indian Institute of Science, Bangalore, India, 560012)

Thu-S2.7 ⌚ 14:50–15:30

Poster

Similar Hierarchical Representation of Speech and Other Complex Sounds In the Brain and Deep Residual Networks: An MEG Study

Tzu-Han Zoe Cheng; Kuan-Lin Chen (UC San Diego); Juliane Schubert; Ya-Ping Chen (University of Salzburg); Tim Brown; John Iversen (UC San Diego)

Thu-S2.8 ⌚ 14:50–15:30

Poster

Effects of spectral degradation on the cortical tracking of the speech envelope

Alexis Deighton MacIntyre (University of Cambridge); Tobias Goehring (University of Cambridge)

Thu-S2.9 ⌚ 14:50–15:30

Poster

Effects of spectral and temporal modulation degradation on intelligibility and cortical tracking of speech signals

Ignacio Calderon De Palma (Radboudumc); Laura S. Lopez (Washington State University); Alejandro Lopez Valdes (Trinity College Dublin)

Thu-O7 - Speech Activity Detection and Modeling

ORAL

📍 The Auditorium

📅 Thursday 24 August 2023 ⌚ 13:30–15:30
Session chairs : Marc Delcroix, Wenwu Wang

Thu-O7.1 ⌚ 13:30–13:50

GL-SSD: Global and Local Speech Style Disentanglement by vector quantization for robust sentence boundary detection in speech stream

Kuncai Zhang (Alibaba Group); Wei Zhou (Alibaba); Pengcheng Zhu (Alibaba Group); Haiqing Chen (Alibaba Inc.)

Thu-O7.2 ⌚ 13:50–14:10

Semantic VAD: Low-Latency Voice Activity Detection for Speech Interaction

Mohan Shi (University of Science and Technology of China); Yuchun Shu (Tianjin University); Lingyun Zuo (Alibaba Group); Qian Chen (Speech Lab, DAMO Academy, Alibaba Group); Shiliang Zhang (Alibaba Group); Jie Zhang (University of Science and Technology of China (USTC)); Li-Rong Dai (University of Science and Technology of China)

Thu-O7.3 ⌚ 14:10–14:30

Dynamic Encoder RNN for Online Voice Activity Detection in Adverse Noise Conditions

Prithvi R.R. Gudepu (Samsung Research and Development Institute - Bangalore, India); Jayesh M. Koroth (Samsung R&D Institute Bangalore, India); Kamini Sabu; Mahaboob Ali Basha Shaik (Samsung Research and Development Institute - Bangalore, India)

Thu-O7.4 ⌚ 14:30–14:50

Point to the Hidden: Exposing Speech Audio Splicing via Signal Pointer Nets

Denise Moussa (Federal Criminal Police Office of Germany/Friedrich-Alexander-University Erlangen-Nuremberg); Germans Hirsch (Friedrich-Alexander-University Erlangen-Nuremberg); Sebastian Wankerl (University of Würzburg); Christian Riess (Friedrich-Alexander University Erlangen-Nuremberg)

Thu-07.5 🕒 14:50–15:10 **Real-Time Causal Spectro-Temporal Voice Activity Detection Based on Convolutional Encoding and Residual Decoding**

Jingyuan Wang (University of Science and Technology of China); Jie Zhang (University of Science and Technology of China (USTC)); Li-Rong Dai (University of Science and Technology of China)

Thu-07.6 🕒 15:10–15:30 **SVVAD: Personal Voice Activity Detection for Speaker Verification**

Zuheng Kang; Jianzong Wang; Junqing Peng (Ping An Technology (Shenzhen) Co., Ltd); Jing Xiao (Ping An Insurance (Group) Company of China)

Thu-08 - Multilingual Models for ASR

ORAL 📍 Wicklow Hall 2

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Xiadong Cui, Preethi Jyothi

Thu-08.1 🕒 13:30–13:50 **Learning Cross-lingual Mappings for Data Augmentation to Improve Low-Resource Speech Recognition**

Muhammad Umar Farooq (University of Sheffield); Thomas Hain (University of Sheffield)

Thu-08.2 🕒 13:50–14:10 **AfriNames: Most ASR Models "Butcher" African Names**

Tobi Olatunji (Intron Inc); Tejumade Afonja (CISPA Helmholtz Center for Information Security, Saarland University, and AI Saturdays Lagos); Bonaventure F. P. Dossou (Mila Quebec AI Institute); Atnafu Lambebo Tonja (Centro de Investigación en Computación (CIC), Instituto Politécnico Nacional (IPN)); Chris Chinenye Emezue (Technische Universität München); Amina Mardiyah Rufai (African Institute for Mathematical Sciences); Sahib Singh (Ford Research (R&A), OpenMined)

Thu-08.3 🕒 14:10–14:30 **Towards Dialect-inclusive Recognition in a Low-resource**

Language: Are Balanced Corpora the Answer?

Liam Lonergan (Trinity College Dublin); Mengjie Qian (Cambridge University); Neasa Ní Chiaráin; Christer Gobl; Ailbhe Ní Chasaide (Trinity College Dublin)

Thu-08.4 🕒 14:30–14:50 **Svarah: Evaluating English ASR Systems on Indian Accents**

Tahir Javed (Indian Institute of Technology Madras); Sakshi Joshi (AI4bharat IIT Madras); Vignesh Nagarajan; Sai Sundaresan; Janki Nawale; Abhigyan Raman (AI4Bharat); Kaushal Bhogale (Indian Institute of Technology, Madras); Pratyush Kumar; Mitesh M. Khapra (Indian Institute of Technology Madras)

Thu-08.5 🕒 14:50–15:10 **N-Shot Benchmarking of Whisper on Diverse Arabic Speech Recognition**

Bashar Talafha (iSchool@UBC); Abdul Waheed (Mohamed bin Zayed University of Artificial Intelligence); Muhammad Abdul-Mageed (iSchool@UBC)

Thu-08.6 🕒 15:10–15:30 **The MALACH Corpus: Results with End-to-End Architectures and Pretraining**

Michael Picheny; Qin Yang; Daiheng Zhang; Lining Zhang (New York University)

Thu-09 - Speech Enhancement and Bandwidth Expansion

ORAL 📍 Liffey Hall 2

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Chi-Chun Lee, DeLiang Wang

Thu-09.1 🕒 13:30–13:50 **Unsupervised speech enhancement with deep dynamical generative speech and noise models**

Xiaoyu Lin (Inria Grenoble-Rhône-Alpes); Simon Leglaive (CentraleSupélec, IETR); Laurent Girin (GIPSA-lab); Xavier Alameda-Pineda (INRIA)

Thu-09.2 🕒 13:50–14:10 **Noise-Robust Bandwidth Expansion for 8K Speech Recordings**

Yin-Tse Lin (Institute of Communication Engineering, National Tsing Hua University, Taiwan); Bo-Hao Su (Department of Electrical Engineering, National Tsing Hua University); Chi-Han Lin; Shih-Chan Kuo; Jyh-Shing Roger

Jang (E.SUN Financial Holding Co.); Chi-Chun Lee (National Tsing Hua University)

Thu-09.3 🕒 14:10–14:30 **mdctGAN: Taming transformer-based GAN for speech super-resolution with Modified DCT spectra**

Chenhao Shuai (Chongqing University of Posts and Telecommunications); Chaohua Shi (Xidian University); Lu Gan (Brunel University London); Hongqing Liu (CQUPT)

Thu-09.4 🕒 14:30–14:50 **Zoneformer: On-device Neural Beamformer For In-car Multi-zone Speech Separation, Enhancement and Echo Cancellation**

Yong Xu (Tencent); Vinay Kothapally (Tencent AI lab); Meng Yu (Tencent); Shixiong Zhang; Dong Yu (Tencent AI Lab)

Thu-09.5 🕒 14:50–15:10 **Low-complexity Broadband Beampattern Synthesis using Array Response Control**

Jiayi Xu; Jian Li (Institute of Acoustics, Chinese Academy of Sciences); Weixin Meng (Institute of Acoustics, Chinese Academy of Sciences); Xiaodong Li (Chinese Academy of Sciences); Chengshi Zheng (Institute of Acoustics, Chinese Academy of Sciences)

Thu-09.6 🕒 15:10–15:30 **A GAN Speech Inpainting Model for Audio Editing Software**

Haixin Zhao (Technical University of Munich)

Thu-O10 - Articulation

ORAL 📍 Wicklow Hall 1

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Takayuki Arai, Ioana Vasilescu

Thu-O10.1 🕒 13:30–14:10 - Survey Talk
Ultrasound-to-speech conversion

Tamás Gábor Csapó

Thu-O10.3 🕒 14:10–14:30 **Deep Speech Synthesis from MRI-Based Articulatory Representations**

Peter Wu; Tingle Li (UC Berkeley); Yijing Lu; Yubin Zhang (University of Southern California); Jiachen Lian

(University of California Berkeley); Alan W Black (CMU); Louis Goldstein (University of Southern California); Shinji Watanabe (Carnegie Mellon University); Gopala K. Anumanchipalli (UC Berkeley)

Thu-O10.4 🕒 14:30–14:50 **Learning to Compute the Articulatory Representations of Speech with the MIRRORNET**

Yashish M Siriwardena; Carol Espy-Wilson (University of Maryland); Shihab Shamma (Ecole Normale Supérieure)

Thu-O10.5 🕒 14:50–15:10 **Generating high-resolution 3D real-time MRI of the vocal tract**

Martin Strauch (RWTH Aachen University); Antoine Serurier (University Hospital of the RWTH Aachen University)

Thu-O10.6 🕒 15:10–15:30 **Exploring a classification approach using quantised articulatory movements for acoustic to articulatory inversion**

Jesuraj Bandekar (IISc); Sathvik Udupa (Indian Institute of Science); Prasanta Kumar Ghosh (Indian Institute of Science (IISc), Bangalore)

Thu-O11 - Perception of Paralinguistics

ORAL 📍 Wicklow Hall 1

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Bogdan Ludusan, Khiet Truong

Thu-O11.1 🕒 13:30–13:50 **Transfer Learning for Personality Perception via Speech Emotion Recognition**

Yuanchao Li; Peter Bell; Catherine Lai (University of Edinburgh)

Thu-O11.2 🕒 13:50–14:10 **A stimulus-organism-response model of willingness to buy from advertising speech using voice quality**

Mizuki Nagano; Yusuke Ijima (NTT Corporation); Sadao Hiroya (NTT)

Thu-O11.3 🕒 14:10–14:30 **Voice Passing : a Non-Binary Voice Gender Prediction System for evaluating Transgender voice transition**

David Doukhan; Simon Devauchelle (Institut National de l'Audiovisuel (INA); Lucile Girard-Monneron (Hôpital Tenon, AP-HP, France); Mía Chávez Ruz; V. Chaddouk (Independent); Isabelle Wagner (Hôpital Tenon, AP-HP, France); Albert Rilliard (Université Paris Saclay, CNRS, LISN, France & Universidade Federal do Rio de Janeiro, Brazil)

Richeng Duan (Agency for Science, Technology and Research (A*STAR))

Thu-O12.4 🕒 14:30–14:50 **Automatic Assessment of Oral Reading Accuracy for Reading Diagnostics**

Bo Molenaar (Radboud Universiteit Nijmegen); Cristian Tejedor-Garcia (Radboud Universiteit Nijmegen); Catia Cucchiarini; Helmer Strik (Radboud Universiteit Nijmegen)

Thu-O11.4 🕒 14:30–14:50 **Influence of Personal Traits on Impressions of One's Own Voice**

Hikaru Yanagida; Yusuke Ijima (NTT Corporation); Naohiro Tawara (NTT)

Thu-O12.5 🕒 14:50–15:10 **An ASR-enabled Reading Tutor: Investigating Feedback to Optimize Interaction for Learning to Read**

Yu Bai (Radboud University Nijmegen); Ferdy Hubers (Radboud University); Catia Cucchiarini (Radboud Universiteit Nijmegen); Roeland van Hout (Radboud University); Helmer Strik (Radboud Universiteit Nijmegen)

Thu-O11.5 🕒 14:50–15:10 **Pardon my disfluency: The impact of disfluency effects on the perception of speaker competence and confidence**

Ambika Kirkland; Joakim Gustafson; Éva Székely (KTH Royal Institute of Technology)

Thu-O12.6 🕒 15:10–15:30 **Adaptation of Whisper models to child speech recognition**

Rishabh Jain (University of Galway, Ireland); Andrei Barcovschi; Mariam Yiwere; Peter Corcoran (University of Galway); Horia Cucu (University Politehnica of Bucharest)

Thu-O11.6 🕒 15:10–15:30 **Cross-linguistic Emotion Perception in Human and TTS Voices**

Iona Gessinger (University College Dublin); Michelle Cohn (UC Davis); Benjamin R. Cowan (University College Dublin); Georgia Zellou (UC Davis); Bernd Möbius (Saarland University)

Thu-P5 - Speech Synthesis: Multilinguality; Evaluation

POSTER 📍 Forum Poster Area 1

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Gustav Eje Henter

Thu-O12 - Technologies for Child Speech Processing

ORAL 📍 EcoCem Room

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Beena Ahmed, Okko Räsänen

Thu-P5.1 🕒 13:30–15:30 **The Effects of Input Type and Pronunciation Dictionary Usage in Transfer Learning for Low-Resource Text-to-Speech**

Phat Do; Matt Coler (University of Groningen); Jelske Dijkstra (Fryske Akademy/Mercator Research Centre); Esther Klabbers (ReadSpeaker)

Thu-O12.1 🕒 13:30–14:10 - Survey Talk
Speech and language technology for children

Leibny Paola Garcia

Thu-P5.2 🕒 13:30–15:30 **Resource-Efficient Fine-Tuning Strategies for Automatic MOS Prediction in Text-to-Speech for Low-Resource Languages**

Phat Do; Matt Coler (University of Groningen); Jelske Dijkstra (Fryske Akademy/Mercator Research Centre); Esther Klabbers (ReadSpeaker)

Thu-O12.3 🕒 14:10–14:30 **Joint Learning Feature and Model Adaptation for Unsupervised Acoustic Modelling of Child Speech**

Thu-P5.3 ⌚ 13:30–15:30 **Robust Feature Decoupling in Voice Conversion by Using Locality-Based Instance Normalization**

Yewei Gu; Xianfeng Zhao (Institute of Information Engineering, Chinese Academy of Sciences); Xiaowei Yi (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences)

Thu-P5.4 ⌚ 13:30–15:30 **Zero-Shot Accent Conversion using Pseudo Siamese Disentanglement Network**

Dongya Jia; Qiao Tian; Kainan Peng; Jiaxin Li; Yuanzhe Chen; Mingbo Ma; Yuping Wang (Bytedance); Yuxuan Wang (ByteDance AI Lab)

Thu-P5.5 ⌚ 13:30–15:30 **Automatic Evaluation of Turn-taking Cues in Conversational Speech Synthesis**

Erik Ekstedt (KTH); Siyang Wang (KTH Royal Institute of Technology, Stockholm); Éva Székely; Joakim Gustafson (KTH Royal Institute of Technology); Gabriel Skantze (KTH)

Thu-P5.6 ⌚ 13:30–15:30 **GenerTTS: Pronunciation Disentanglement for Timbre and Style Generalization in Cross-Lingual Text-to-Speech**

Yahuan Cong; Haoyu Zhang; Haopeng Lin; Shichao Liu (ByteDance); Chunfeng Wang (Bytedance Inc); Yi Ren (Bytedance); Xiang Yin (ByteDance AI LAB); Zejun Ma (Bytedance)

Thu-P5.7 ⌚ 13:30–15:30 **Analysis of Mean Opinion Scores in Subjective Evaluation of Synthetic Speech Based on Tail Probabilities**

Yusuke Yasuda (Nagoya university); Tomoki Toda (Nagoya University)

Thu-P5.8 ⌚ 13:30–15:30 **LibriTTS-R: A Restored Multi-Speaker Text-to-Speech Corpus**

Yuma Koizumi; Heiga Zen; Shigeki Karita; Yifan Ding (Google); Kohei Yatabe (Tokyo University of Agriculture and Technology); Nobuyuki Morioka; Michiel Bacchiani; Yu Zhang; Wei Han (Google); Ankur Bapna (Google Research)

Thu-P5.9 ⌚ 13:30–15:30 **UniFLG: Unified Facial Landmark Generator from Text or**

Speech

Kentaro Mitsui; Yukiya Hono; Kei Sawada (rinna Co., Ltd.)

Thu-P5.10 ⌚ 13:30–15:30 **XPhoneBERT: A Pre-trained Multilingual Model for Phoneme Representations for Text-to-Speech**

Linh The Nguyen; Thanh Pham; Dat Quoc Nguyen (VinAI Research)

Thu-P5.11 ⌚ 13:30–15:30 **CIArTTS: An Open-Source Classical Arabic Text-to-Speech Corpus**

Ajinkya Kulkarni (MBZUAI University); Atharva Kulkarni (Erisha); Sara Abedalmon'em Mohammad Shatnawi; Hanan Aldarmaki (MBZUAI)

Thu-P5.12 ⌚ 13:30–15:30 **Diffusion-based accent modelling in speech synthesis**

Kamil Deja (Warsaw University of Technology); Georgi Tinchev; Marta Czarnowska; Marius Cotescu; Jasha Droppo (Amazon)

Thu-P5.13 ⌚ 13:30–15:30 **Multilingual Text-to-Speech Synthesis for Turkic Languages Using Transliteration**

Rustem Yeshpanov (Institute of Smart Systems and Artificial Intelligence); Saida Mussakhoyeva (Nazarbayev University); Yerbolat Khassanov (ByteDance)

Thu-P5.14 ⌚ 13:30–15:30 **CVTE-Poly: A New Benchmark for Chinese Polyphone Disambiguation**

Siheng Zhang; Xingjun Tan (Guangzhou Shiyuan Electronic Technology Company Limited); Yanqiang Lei; Xi-anxiang Wang; Zhizhong Zhang; Yuan Xie (East China Normal University)

Thu-P5.15 ⌚ 13:30–15:30 **Improving Bilingual TTS Using Language And Phonology Embedding With Embedding Strength Modulator**

Fengyu Yang (Xiaomi); Jian Luan; Meng Meng; Yujun Wang (Xiaomi AI Lab)

Thu-P5.16 ⌚ 13:30–15:30 **High-Quality Automatic Voice Over with Accurate Alignment: Supervision through Self-Supervised Discrete Speech Units**

Junchen Lu (National University of Singapore); Berrak Sisman (The University of Texas at Dallas); Mingyang Zhang (Chinese University of Hong Kong, ShenZhen); Haizhou Li (The Chinese University of Hong Kong, Shen-zhen)

Thu-P5.17 🕒 13:30–15:30 **PronScribe: Highly Accurate Multimodal Phonemic Transcription From Speech and Text**

Yang Yu (Google); Matthew Perez (University of Michigan); Ankur Bapna (Google Research); Fadi Haik; Siamak Tazari; Yu Zhang (Google)

Thu-P5.18 🕒 13:30–15:30 **Expressive Machine Dubbing Through Phrase-level Cross-lingual Prosody Transfer**

Jakub Swiatkowski (Amazon); Duo Wang (Amazon Inc); Mikolaj Babianski (Amazon); Giuseppe Coccia (Amazon Science); Patrick Lumban Tobing; Ravichander Vipperla (Amazon); Viacheslav Klimkov; Vincent Pollet (Amazon Science)

Thu-P5.19 🕒 13:30–15:30 **Why We Should Report the Details in Subjective Evaluation of TTS More Rigorously**

Cheng-Han Chiang; Wei-Ping Huang; Hung-yi Lee (National Taiwan University)

Thu-P5.20 🕒 13:30–15:30 **Speaker-independent neural formant synthesis**

Pablo Pérez Zarazaga; Zofia Malisz; Gustav Eje Henter (KTH Royal Institute of Technology); Lauri Juvela (Aalto University)

Thu-P5.21 🕒 13:30–15:30 **CALLS: Japanese Empathetic Dialogue Speech Corpus of Complaint Handling and Attentive Listening in Customer Center**

Yuki Saito (The University of Tokyo, Japan); Eiji Iimori; Shinnosuke Takamichi (The University of Tokyo); Kentaro Tachibana (LINE Corp.); Hiroshi Saruwatari (The University of Tokyo)

Thu-P5.22 🕒 13:30–15:30 **SASPEECH: A Hebrew Single Speaker Dataset for Text To Speech and Voice Conversion**

Orian Sharoni (UpAI); Roei Shenberg (UpAI); Erica Cooper (National Institute of Informatics)

Thu-P6 - Speaker and Language Identification 3

POSTER

📍 Forum Poster Area 2

📅 Thursday 24 August 2023 🕒 13:30–15:30
Session chairs : Reinhold Häb-Umbach

Thu-P6.1 🕒 13:30–15:30 **One-Step Knowledge Distillation and Fine-Tuning in Using Large Pre-Trained Self-Supervised Learning Models for Speaker Verification**

Jungwoo Heo; Chan-yeong Lim; Ju-ho Kim; Hyun-seo Shin; Ha-Jin Yu (University of Seoul)

Thu-P6.2 🕒 13:30–15:30 **Defense Against Adversarial Attacks on Audio DeepFake Detection**

Piotr Kawa; Marcin Plata; Piotr Syga (Wroclaw University of Science and Technology)

Thu-P6.3 🕒 13:30–15:30 **A conformer-based classifier for variable-length utterance processing in anti-spoofing**

Eros Rosello (University of Granada); Alejandro Gomez-Alanis (Amazon); Angel M. Gomez; Antonio Peinado (University of Granada)

Thu-P6.4 🕒 13:30–15:30 **Conformer-based Language Embedding with Self-Knowledge Distillation for Spoken Language Identification**

Feng Wang; Lingyan Huang; Tao Li; Qingyang Hong; Lin Li (Xiamen University)

Thu-P6.5 🕒 13:30–15:30 **CommonAccent: Exploring Large Acoustic Pretrained Models for Accent Classification Based on Common Voice**

Juan Zuluaga-Gomez (Idiap Research Institute); Sara Ahmed (Texas A&M University); Danielius Visockas (Vilnius Gediminas Technical University); Cem Subakan (Montreal Institute for Learning Algorithms)

Thu-P6.6 🕒 13:30–15:30 **From adaptive score normalization to adaptive data normalization for speaker verification systems**

Sandro Cumani (Politecnico di Torino); Salvatore Sarni (Politecnico di Torino)

Haoyu Wang; Bei Liu; Yifei Wu; Yanmin Qian (Shanghai Jiao Tong University)

Thu-P6.7 ⌚ 13:30–15:30 **CAM++: A Fast and Efficient Network for Speaker Verification Using Context-Aware Masking**

Hui Wang (Speech Lab, Alibaba Group); Siqi Zheng (Alibaba Group); Yafeng Chen (Speech Lab, Alibaba Group); Luyao Cheng (Alibaba Group); Qian Chen (Speech Lab, DAMO Academy, Alibaba Group)

Thu-P6.14 ⌚ 13:30–15:30 **Adversarial Diffusion Probability Model For Cross-domain Speaker Verification Integrating Contrastive Loss**

Xinmei Su; Xiang Xie; Fengrun Zhang; Chenguang Hu (Beijing Institute of Technology)

Thu-P6.8 ⌚ 13:30–15:30 **North Sámi Dialect Identification with Self-supervised Speech Models**

Sofoklis Kakouros (University of Helsinki); Katri Hiovain-Asikainen (UiT The Arctic University of Norway)

Thu-P6.15 ⌚ 13:30–15:30 **Chinese Dialect Recognition Based on Transfer Learning**

Rui Jiang (Xi'an Jiaotong University)

Thu-P6.9 ⌚ 13:30–15:30 **Encoder-decoder Multimodal Speaker Change Detection**

Jee-weon Jung (Carnegie Mellon University); Soonshin Seo (NAVER Corporation); Hee-Soo Heo (Naver Corp.); Geonmin Kim (Naver Cloud Corporation); You Jin Kim; Young-ki Kwon (Naver Corporation); Minjae Lee (NAVER Cloud Corporation); Bong-Jin Lee (Naver Corporation)

Thu-P6.16 ⌚ 13:30–15:30 **Spoofing Attacker Also Benefits from Self-Supervised Pre-trained Model**

Aoi Ito (Hosei University); Shota Horiguchi (Hitachi, Ltd.)

Thu-P6.10 ⌚ 13:30–15:30 **Disentangled Representation Learning for Multilingual Speaker Recognition**

Kihyun Nam (Korea Advanced Institute of Science and Technology (KAIST)); Youkyum Kim (KAIST); Jaesung Huh (University of Oxford); Hee-Soo Heo (Naver Corp.); Jee-weon Jung (Carnegie Mellon University); Joon Son Chung (KAIST)

Thu-P6.17 ⌚ 13:30–15:30 **Label Aware Speech Representation Learning For Language Identification**

Shikhar Vashishth (Google); Shikhar Bharadwaj; Sriram Ganapathy; Ankur Bapna; Min Ma (Google Research); Wei Han (Google); Vera Axelrod (Google, Inc); Partha Talukdar (Google Research)

Thu-P6.11 ⌚ 13:30–15:30 **A Compact End-to-End Model with Local and Global Context for Spoken Language Identification**

Fei Jia (NVIDIA Corporation); Nithin Rao Koluguri; Jagadeesh Balam; Boris Ginsburg (NVIDIA)

Thu-P6.18 ⌚ 13:30–15:30 **Exploring the Impact of Back-End Network on Wav2vec 2.0 for Dialect Identification**

Qibao Luo (Beijing University of Civil Engineering and Architecture); Ruohua Zhou (Beijing University of Civil Engineering and Architecture)

Thu-P6.12 ⌚ 13:30–15:30 **On the Robustness of Arabic Speech Dialect Identification**

Peter Sullivan; AbdelRahim Elmadany (UBC); Muhammad Abdul-Mageed (iSchool@UBC)

Thu-P6.19 ⌚ 13:30–15:30 **Improving Speaker Verification with Self-Pretrained Transformer Models**

Junyi Peng; Oldřich Píchot (Brno University of Technology); Themis Stafylakis (Omilia - Conversational Intelligence); Ladislav Mosner; Lukáš Burget; Jan "Honza" Černocký (Brno University of Technology)

Thu-P6.13 ⌚ 13:30–15:30 **Adaptive Neural Network Quantization For Lightweight Speaker Verification**

Thu-P6.20 ⌚ 13:30–15:30 **Handling the Alignment for Wake Word Detection: A Comparison Between Alignment-Based, Alignment-Free and Hybrid Approaches**

Vinicius Ribeiro (Loria, Université de Lorraine); Yiteng Huang (Meta Platforms); Yuan Shangguan (Meta AI); Zhaojun Yang (Meta); Li Wan; Ming Sun (Meta AI)

Thu-P7 - Analysis of Speech and Audio Signals 4

POSTER 📍 Forum Poster Area 3

📅 Thursday 24 August 2023 ⌚ 13:30–15:30
Session chairs : Hemlata Tak

Thu-P7.1 ⌚ 13:30–15:30 What do self-supervised speech representations encode? An analysis of languages, varieties, speaking styles and speakers

Julian Linke (TU Graz (SPSC)); Mate Kadar (Budapest University of Technology and Economics); Gergely Dosin-szky (Hungarian Research Centre for Linguistics); Peter Mihajlik (BME-TMIT); Gernot Kubin; Barbara Schuppler (Graz University of Technology)

Thu-P7.2 ⌚ 13:30–15:30 A Compressed Synthetic Speech Detection Method with Compression Feature Embedding

Jinghong Zhang (Institute of Information Engineering, Chinese Academy of Sciences); Xiaowei Yi (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences); Xian-feng Zhao (Institute of Information Engineering, Chinese Academy of Sciences)

Thu-P7.3 ⌚ 13:30–15:30 Outlier-aware Inlier Modeling and Multi-scale Scoring for Anomalous Sound Detection via Multitask Learning

Yucong Zhang (Duke Kunshan University); Suo Hongbin; Yulong Wan (OPPO); Ming Li (Duke Kunshan University)

Thu-P7.4 ⌚ 13:30–15:30 MOSLight: A Lightweight Data-Efficient System for Non-Intrusive Speech Quality Assessment

Zitong Li (Fudan University); Wei Li (Fudan University)

Thu-P7.5 ⌚ 13:30–15:30 A Multi-Scale Attentive Transformer for Multi-Instrument Symbolic Music Generation

Xipin Wei; Junhui Chen; Zirui Zheng; Li Guo (BUPT); Lantian Li (Beijing University of Posts and Telecommunications); Dong Wang (Tsinghua University)

Thu-P7.6 ⌚ 13:30–15:30 MTANet: Multi-band Time-frequency Attention Network for

Singing Melody Extraction from Polyphonic Music

Yuan Gao; Ying Hu; Liusong Wang; Hao Huang (Xinjiang University); Liang He (Tsinghua University)

Thu-P7.7 ⌚ 13:30–15:30 Xiaoicesing 2: A High-Fidelity Singing Voice Synthesizer Based on Generative Adversarial Network

Wang Chunhui (Xiaolce); Chang Zeng (National Institute of Informatics); Xing He (Beijing Bombax Xiaolce Technology Co.)

Thu-P7.8 ⌚ 13:30–15:30 Do Vocal Breath Sounds Encode Gender Cues for Automatic Gender Classification?

Mohammad Shaique Solanki (Indian Institute of Science, Bangalore); Ashutosh Bharadwaj (R V College of Engineering); Jeevan Kylash (Indian Institution of Science); Prasanta Kumar Ghosh (Indian Institute of Science (IISc), Bangalore)

Thu-P7.9 ⌚ 13:30–15:30 Automatic Exploration of Optimal Data Processing Operations for Sound Data Augmentation Using Improved Differentiable Automatic Data Augmentation

Toki Sugiura (University of Yamanashi); Hiromitsu Nishizaki (University of Yamanashi)

Thu-P7.10 ⌚ 13:30–15:30 A Snoring Sound Dataset for Body Position Recognition: Collection, Annotation, and Analysis

Li Xiao (School of Computer Science, Wuhan University); Xiuping Yang (Zhongnan Hospital of Wuhan University); Xinhong Li; Weiping Tu (Wuhan University); Xiong Chen (Zhongnan Hospital of Wuhan University); Weiyan Yi; Jie Lin; Yuhong Yang (Wuhan University); Yanzhen Ren (Computer School of Wuhan University)

Thu-P7.11 ⌚ 13:30–15:30 RMVPE: A Robust Model for Vocal Pitch Estimation in Polyphonic Music

Haojie Wei (Renmin University of China); Xueke Cao (BeijingJiaoTong University); Tangpeng Dan (School of Information, Renmin University of China); Yueguo Chen (Renmin University of China)

Thu-P7.12 ⌚ 13:30–15:30 Spatialization Quality Metric for Binaural Speech

Pranay Manocha (Princeton University); Israel Dejene Gebru (Reality Labs Research); Anurag Kumar (Facebook Research); Dejan Markovic; Alexander Richard (Facebook Reality Labs)

Thu-P7.13 ⌚ 13:30–15:30 **AsthmaSCELNet: A Lightweight Supervised Contrastive Embedding Learning Framework for Asthma Classification Using Lung Sounds**

Arka Roy (IIT PATNA); Udit Satija (IIT Patna)

Thu-P7.14 ⌚ 13:30–15:30 **Patch-Mix Contrastive Learning with Audio Spectrogram Transformer on Respiratory Sound Classification**

Sangmin Bae (KAIST); June-Woo Kim (Kyungpook National University); Won-Yang Cho; Hyerim Baek (SmartSound); Soyoun Son (modulabs); Byungjo Lee (Dongguk University); Changwan Ha; Kyongpil Tae (modulabs); Sungnyun Kim; Se-Young Yun (KAIST)

Thu-P7.15 ⌚ 13:30–15:30 **Remote Assessment for ALS using Multimodal Dialog Agents: Data Quality, Feasibility and Task Compliance**

Vanessa Richter (University of Stuttgart & Modality.AI); Michael Neumann (modality.ai); Jordan Green; Brian Richburg (MGH Institute of Health Professions); Oliver Roesler (Modality.AI Inc.); Hardik Kothare (Modality.AI); Vikram Ramnarayanan (University of California, San Francisco & Modality.AI)

Thu-P7.16 ⌚ 13:30–15:30 **Adaptation of Text-Conditioned Diffusion Models for Audio-to-Image Generation**

Guy Yariv (Hebrew University of Jerusalem); Itai Gat (Technion); Lior Wolf (Tel-Aviv University); Yossi Adi (The Hebrew University of Jerusalem); Idan Schwartz (Technion)

Thu-P7.17 ⌚ 13:30–15:30 **Obstructive sleep apnea screening with breathing sounds and respiratory effort: a multimodal deep learning approach**

Hector E. Romero; Ning Ma; Guy J. Brown (University of Sheffield); Sam Johnson (PFL Healthcare Limited)

Thu-P7.18 ⌚ 13:30–15:30 **Investigation of Music Emotion Recognition Based on Segmented Semi-Supervised Learning**

Yifu Sun (Fudan University); Xulong Zhang (Ping An Technology (Shenzhen) Co., Ltd.); Jianzong Wang; Ning Cheng (Ping An Technology (Shenzhen) Co., Ltd); Kaiyu Hu (Department of Electrical and Computer Engineering, Stony Brook University, Stony Brook, NY); Jing Xiao (Ping An Insurance (Group) Company of China)

Thu-SaT - Show and Tell: Media and commercial applications

POSTER 📍 Show and Tell Area

📅 Thursday 24 August 2023 ⌚ 13:30–15:30
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Thu-SaT.1 ⌚ 13:30–15:30 **Let's Give a Voice to Conversational Agents in Virtual Reality**

Michele Yin; Gabriel Roccabruna; Abhinav Azad; Giuseppe Riccardi (University of Trento)

Thu-SaT.2 ⌚ 13:30–15:30 **FOOCTTS: Generating Arabic Speech with Acoustic Environment for Football Commentator**

Massa Baali (Mohamed bin Zayed University of Artificial Intelligence); Ahmed M. Ali (Qatar Computing Research Institute, HBKU)

Thu-SaT.3 ⌚ 13:30–15:30 **Video Summarization Leveraging Multimodal Information for Presentations**

Hanchao Liu; Dapeng Chen; Rongjun Li; Wenyuan Xue; Wei Peng (IT Innovation and Research Center, Huawei Technologies)

Thu-SaT.4 ⌚ 13:30–15:30 **What questions are my customers asking?: Towards Actionable Insights from Customer Questions in Contact Center Calls**

Varun Nathan; Devashish Deshpande; Ayush Kumar; Cijo George; Jithendra Vepa (Observe.AI)

Thu-SaT.5 ⌚ 13:30–15:30 **COVoy: A Contact Center Operated Pipeline for Voice of Customer Discovery**

Rishabh Tripathi; Digvijay Anil Ingle; Ayush Kumar; Cijo George; Jithendra Vepa (Observe.AI)

Thu-SaT.6 ⌚ 13:30–15:30 **NeMo Forced**

Aligner and its application to word alignment for subtitle generation

Elena Rastorgueva; Vitaly Lavrukhin; Boris Ginsburg (NVIDIA)

Thu-SaT.7 13:30–15:30 **CauSE: Causal Search Engine for Understanding Contact-Center Conversations**

Anup Pattnaik; Tanay Narshana; Aashraya Sachdeva; Cijo George; Jithendra Vepa (Observe.AI)

Thu-SaT.8 13:30–15:30 **Tailored Real-Time Call Summarization System for Contact Centers**

Aashraya Sachdeva; Sai Nishanth Padala; Anup Pattnaik; Varun Nathan; Cijo George; Ayush Kumar; Jithendra Vepa (Observe.AI)

Thu-SaT.9 13:30–15:30 **Federated Learning Toolkit with Voice-based User Verification Demo**

Prathamesh Mandke; Rachel Oberst; Matthias Reisser; Avijit Chakraborty; Christos Louizos; Joseph Soriaga (Qualcomm AI Research); Daniel Madrigal; Andre Manoel; Nalin Singal; Jeff Omhover; Robert Sim (Microsoft Corporation)

Thu-SaT.10 13:30–15:30 **Learning When to Speak: Latency and Quality Trade-offs for Simultaneous Speech-to-Speech Translation with Offline Models**

Liam Dugan; Anshul Wadhawan (University of Pennsylvania); Kyle Spence (Roblox); Chris Callison-Burch (University of Pennsylvania); Morgan McGuire; Victor Zordan (Roblox)

Thu-SaT.11 13:30–15:30 **Fast Enrollable Streaming Keyword Spotting System: Training and Inference using a Web Browser**

Namhyun Cho (NCSOFT); Sunmin Kim (NCSOFT Corporation); Yoseb Kang (NCSOFT); Heeman Kim (NCSOFT Corporation)

Thu-SaT.12 13:30–15:30 **Cross-lingual/Cross-channel Intent Detection in Contact-Center Conversations**

Suraj Agrawal; Aashraya Sachdeva; Soumya Jain; Cijo George; Jithendra Vepa (Observe.AI)

Closing - Closing Session

CEREMONY **The Auditorium**

📅 Thursday 24 August 2023 16:00–17:00
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