

Speech, Music and Mind 2023 (SMM23)

Detecting and Influencing Mental States with Audio

Satellite Workshop of Interspeech 2023

The sixth International Workshop on Speech, Music and Mind 2023 (SMM23): Detecting and Influencing Mental States with Audio, an ISCA-approved satellite workshop of INTERSPEECH 2023, was held on 18-Aug-2023 at Room LB1.07, Lloyd Institute, Trinity College Dublin, Ireland. The workshop brought together, from both academia and industry, participants interested in understanding the interplay between the human mind and sound/music/speech. The aim of the workshop was to further the state of the art in detecting and influencing mental states with audio. The 2023 edition of the workshop emphasized multi-modal approaches.

The specific topics for the workshop were:

- Detecting stress, emotion or mental states of people from realistic speech
 - Multi-modal approaches: using other modes such as video and sensor data in addition to speech
 - Relevance of language models for mental state detection
 - Cross-corpus detection on non-acted speech databases in multiple languages and realistic environments
- Effects of audio on stress, emotion and mental states of people
 - Audio-Visual Perception of music
 - Analysis of brain signal responses to audio and visual stimulus
 - Evaluation and Applications: augmented reality, art installations, music animations, computer games, etc.
- Topics of general interest in the context of stress, emotion and mental states
 - Approaches of Explainable AI in music and speech
 - Novel signal processing or machine learning techniques
 - Sounds at inaudible frequencies
 - Novel protocols for assessing mental states, inducing stress or emotion
 - Applications

Program

The program consisted of accepted papers based on at least two reviews, which were presented by authors preceded by interesting and insightful invited talks. The first part of the workshop was themed on Influencing and assessing human productivity through audio signals and Speech Production, while the second part focused on Investigating auditory cognition with natural speech and music.



Keynote 1: Into the prosodic dimension: Finding meaning in the non-lexical aspects of speech.

Dr. Catherine Lai (Lecturer in Speech and Language Technology, working at the Centre for Speech Technology Research at the University of Edinburgh)

Oral session: Influencing and assessing human productivity through audio signals

- Martin Meza, Lara Gauder, Lautaro Estienne, Ricardo Barchi, Agustín Gravano, Pablo Riera, Luciana Ferrer
Team work quality prediction using speech-based features
- Jasmina Maric, Lekshmi Murali Rani
Coding music for no stress learning

Oral session: Speech Production

- João P. Cabral, D. Govind
Voice source correlates of acted male speech emotions
- Tamás Gábor Csapó, Frigyes Viktor Arthur, Péter Nagy, Ádám Boncz
Comparison of acoustic-to-articulatory and brain-to-articulatory mapping during speech production using ultrasound tongue imaging and EEG

Keynote 2: Investigating auditory cognition with natural speech and music.

Dr. Giovanni Di Liberto (Dept. of Computer Science and Statistics at Trinity College Dublin)

Oral session: Assessment of personality traits and mental states through speech

- R. Barchi, L. Pepino, L. Gauder, L. Estienne, M. Meza, P. Riera, L. Ferrer
Apparent personality prediction from speech using expert features and wav2vec2
- Chitrallekha Bhat, Sunil Kumar Kopparapu
Harnessing the power of speech technology for mental health assessment
- Raymond Brueckner, Misa Takegami, Namhee Kwon, Nate Blaylock, Vinod Subramanian, Eri Kiyoshige, Soshiro Ogata, Yuriko Nakaoku, Henry O'Connell, Kunihiro Nishimura
Voice technology to identify fatigue from Japanese speech

Invited Talk: Dynamics in Interactions and Affects Considering Personality Characteristics.

Dr. Ronald Böck (Genie Enterprise)

Roundtable session with invited guests: Ethics and assessment of mental states.

João Cabral, Francesca Bonin, Nicolas Obin, Christian Saam



Review Process

Each submitted paper was reviewed by at least two members of the Scientific Committee and received an overall score that was weighted by the reviewer's rating and their confidence.

Scientific Committee

Prof. Beatriz Raposo de Medeiros - University of Sao Paulo, Brazil

Prof. Maciej Karpinski - AMU Poznan, Poland

Prof. Carlos Busso - University of Texas at Dallas

Prof. Shrikant Narayanan - University of Southern California

Prof. Prashanta Ghosh - IISc, Bangalore

Prof. Urs Markus Nater - University of Vienna

Prof. Suryakanth V Gangashetty - KLEF Vaddeswaram, AP, India

Prof. Shantala Hegde - NIMHANS, Bangalore

Dr. Manuela Marin - University of Innsbruck, University of Vienna

Prof. Hema Murthy - IIT, Madras

Dr. Sunil Kumar Koppurapu - TCS Research

Dr. Mayuri Duggirala - TCS Research

Prof. Vinoo Alluri - IIIT, Hyderabad

Prof. V Ramasubramanian - IIIT, Bangalore

Christophe d'Alessandro - ALAM - Institut Jean Le Rond D'Alembert - Sorbonne Université, CNRS

Workshop Chairs

Meghna
Pandharipande

João Cabral

Venkata Subramanian
Viraraghavan

Subhrojyoti Chaudhuri

