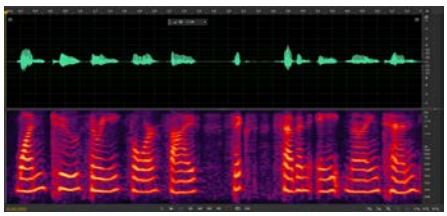
School of Electrical Engineering and Telecommunications

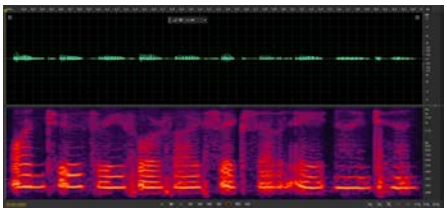
Speech and Behavioural Signal Processing

SPECIALISTS IN AFFECTIVE COMPUTING

The Speech and Behavioural Signal Processing Laboratory is known internationally for its research into automatic emotion and mental state inference from speech and behavioural signals.



neutral speech

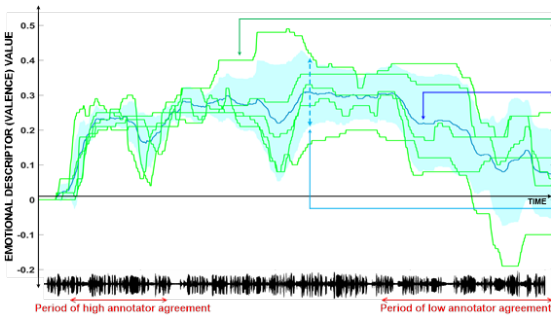


depressed speech

THE TOOLS OF OUR TRADE

Our laboratory is equipped with:

- A large team of senior and early-career academic staff, postdocs, PhD students and many honours students
- High performance computing capabilities and a large library of code, scripts and databases of speech and other signals
- (via partners) smartphone applications for gathering large amounts of patient data under realistic conditions
- A new soundproofed, light-controlled studio facility for recording of speech and behavioural signals under a range of different protocols (end 2017)



OUR EXPERTS

Prof Eliathamby Ambikairajah
A/Prof Julien Epps
Dr Vidhyasaharan Sethu

WHAT WE DO

Lead Australian research into:

- Automatic inference of emotion and distress from speech
- Automatic inference of mental state, e.g. cognitive ability/impairment, depression from speech
- Voice biometrics and language identification
- Mental state inference from wearable sensors
- Signal processing
- Machine learning
- Affective computing

Translation of research to

- Monitoring mental state via smartphone
- Smart homes and environments
- Live analysis of web-based remote video consultation

OUR PARTNERS

Black Dog Institute
SONDE
University of Canberra, Australia's Capital University
ANU, The Australian National University
QIMR Berghofer Medical Research Institute
Kids Cancer Centre, Sydney Children's Hospital
USC Viterbi School of Engineering
SAIL

KEYSTONE / RECENT PROJECTS

Automatic Inference of Distress from Speech Accounting for Prediction Uncertainty (pilot project '17)
Investigating Bayesian Frameworks for Paralinguistic Classification (UNSW Engineering '16)
Affective Sensing Technology for the Detection and Monitoring of Depression and Melancholia (DP'13)
Joint Modelling and Recognition of Linguistic and Paralinguistic Speech Information (DP'11)

新南威尔士大学火炬创新园区
Torch Innovation Precinct at UNSW

More information Contact: A/Prof. Julien Epps, (j.epps@unsw.edu.au), T: +61 2 9385 6579