



UNSW
SYDNEY



Speech Signal Processing

Inferring emotional and mental state from speech and behavioural signals—by automatically detecting speaker, language and pronunciation—to enhance security via speech analysis.

Competitive advantage

Expertise in automatic inference of emotion, distress and mental state from speech and other biometrics, as well as:

- Voice biometrics and anti-spoofing countermeasures
- Automatic identification of language and detection of pronunciation
- Behavioural and biomedical signal processing

Impact

- More efficient and effective security and surveillance
- Understanding and maximising human performance in high-stress environments
- This research has been translated into smartphone apps that can monitor mental states, smart health monitoring and interventions, automated speech therapy and second language learning, and live analysis of web-based remote video consultations

Successful applications

- Joint modelling and recognition of linguistic and paralinguistic speech information
- Affective sensing technology for the detection and monitoring of depression and melancholia
- Automatic task analysis for wearable computing
- Investigating Bayesian frameworks for paralinguistic classification
- Automatic speech-based assessment of mental state via mobile device

Capabilities and facilities

- High performance computing capabilities, including a large library of c

More Information

Professor Julien Epps

School of Electrical Engineering and Telecommunications

T: +61 (0) 2 9385 6579

E: j.epps@unsw.edu.au

UNSW Knowledge Exchange

knowledge.exchange@unsw.edu.au

www.capabilities.unsw.edu.au

+61(2) 9385 5008