Human Decision Science

To support business and operational goals, it is essential to learn what information a human operator needs and when it is needed; the impact of high-stress environments to study memory, navigation and functioning; how decision makers rely on multiple information sources; and how bias or decision failures arise

Competitive advantage

- State-of-the-art behavioural data analysis:
- Development of computational models to predict human operator performance
- Expertise in collecting and analysing large, complex behavioural data sets
- Bayesian statistical models for human learning and decision making, compatible with probabilistic approaches to machine learning
- Development of psychologically principled "wisdom of crowds" models to aggregate expert decisions
- Understanding of how human decision makers manage the trade-off between speed and accuracy

Impact

- The top ranked Psychology school in Australia, with proven experience in human decision processes, computational modelling and the empirical study of human learning, emotion and cognition.

Successful applications

- Track record of successfully applied collaborative work in forensic science, finance, telecommunications and defence
- Developed novel statistical tools for analysing behavioural data
- 'Learning and choosing in a complex world' – Australian Research Council funded research project developing computational models of how people make choices in dynamic environment
- "Unifying decisions from experience and description" – Australian Research Council funded research project on the difference between decision making from real experience and decision making from descriptions

Capabilities and resources

- State of the art eye-tracking, electroencephalogram (EEG), and other physiological measurement
- Behavioural research using immersive VR housed at UNSW School of Mining Engineering

More Information

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