



**UNSW**  
SYDNEY



## Intelligent Human-Machine Cooperation

**Developing interpretable data mining, machine learning and deep learning algorithms—as well as designing systems and interfaces—to enable novel ways of human-machine interactions, including an improved understanding of challenges such as trust, explainability and resilience that improve human-autonomy partnership.**

### Competitive advantage

A deep understanding of:

- Human behaviour analysis from heterogeneous digital footprints
- Anomaly detection: identifying rare or unusual events or observations
- Information filtering: teaching machines how to proactively discover an item of interest and making computers aware of situations to assist humans to make better decisions
- Brain-computer interface: building a direct communication pathway between the human brain and an external device in the outside world

### Impact

- Advanced algorithms for improved automation and better support for human-autonomy partnership
- Advanced data analysis for improved collaborative reasoning and decision-making process

### Successful applications

- Trust-aware distributed AI autonomy
- Context-aware intent prediction for human-autonomy cooperation
- Improving resilience of autonomous cyber defence systems with self-healing
- Opinion fraud detection
- Thing-of-interest recommendation in the Internet of Things
- Human abnormal activity detection
- Mining Internet of Things intelligence
- Capabilities and facilities
- GPU-accelerated Data Analytical Platform

### Our partners

- Data61
- US Navy Office of

### More Information

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