Cyber and **Information Warfare**

DEFENCE RESEARCH CAPABILITY CATEGORY: **CYBER AND INFORMATION WARFARE**

Research and development to identify and address the threats to Australia's defence and national security presented by information and communications technology dependencies and vulnerabilities.

UWA has world-leading expertise in conducting research on human information processing and transmission, the mechanisms of social influence, and, more broadly, culture and its evolution. This helps agencies identify false information, conspiracy theories, and online radicalisation, anticipate its spread and impact, and develop strategies to counteract malign informational influence.

UWA Competitive Advantage

- Researchers from multi-disciplinary teams including psychology, human factors, social and behavioural science, economics, computer science, and cybersecurity.
- Research toward secure, assured and resilient information systems as relied on by Defence, including; Moving Target Defence, Network modelling and analysis, anomaly detection and malware analysis.
- Using artificial intelligence (AI) and deep learning to improve the detection and mitigation of misinformation and fraud.
- Experimental and computational simulations to precisely determine the effects of misinformation on cognition and behaviour.
- Design of pre-bunking and de-bunking interventions to reduce the impact and spread of misinformation.
- Predicting the outcomes of collective human behaviour (e.g., information transmission and transformation).
- Research into human culture, cultural evolution, and culture change including communication, social influence and misinformation management in social media).

Outcomes and Impact

- Misinformation impacts on cognition and behaviour and mitigation strategies including effectively debunking misinformation, reducing misconceptions, and better preparing people for future misinformation.
- Fostering information and media literacy, critical thinking.

Capabilities and facilities

- Design of pre-bunking and de-bunking interventions.

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