Detecting and understanding influence in online social networks

Up for a challenge? Join us to work on a Defence-led research project with Fivecast

Who can apply?
- Australian Citizens

Total annual stipend amount
- $40,000pa base scholarship
- Plus $10,00pa top-up scholarship

Industry partner and funding body
- Fivecast
- Defence Trailblazer

Start date
- No later than February 2025

Program of study available
- Doctor of Philosophy (PhD)
- Master of Philosophy (MPhil) with the University of Adelaide

About the project

Information operations, mis/disinformation, "grey zone" activities and malign influence are all issues of clear concern for democratic governments worldwide. The online information environment is of particular concern because of the amount of communication that is dependent upon it, and its potential for large-scale, low-cost influence campaigns – an asymmetric advantage for those who can control this space through narratives and social networks. Analysts are becoming dependent on "open-source intelligence" (OSINT) from to understand the online information environment and to form situational awareness of evolving narratives and potential influence vectors. Doing this at scale requires not only efficient algorithms to sort and organise large volumes of OSINT data, but also advanced analytics to draw actionable insights from those data streams.

This project will tackle the challenge of understanding how influence spreads within online social networks. Specifically, it focuses on situations where the creation and engagement with inflammatory content might transition from being a fringe interest—relatively harmless—to becoming dangerous as the network evolves, giving the narrative a larger, more susceptible audience. Using large, real OSINT datasets, it will help develop: influence metrics, both content-based and graph theoretical; tools for community detection and characterisation in social networks; data-driven content analysis tools, including AI assistants; temporal network analysis models tracking the evolution of networks and communities in near real-time.

Benefits

- Work closely with experts on defence industry led projects
- Translate research into a tangible solution
- $50,000 p.a. tax-free* stipend (pro-rated for eligible part-time students)
- No tuition fees apply
- Acquire a unique set of skills and expertise
- Enhance your employability skills sought after by industry; graduates are highly regarded by employers
- Opportunities for local and international travel
- Work alongside world-leading researchers
- Gain industry experience and grow your networks
- Solve real life problems through industry engaged projects
- Publish your contributions
- Become an expert and make a real impact
- Access paid annual, parental and personal leave.

Eligibility criteria

- Australian citizens and defence industry professionals are encouraged to apply. It is expected that this project will require the candidate to have a security clearance which will likely limit applicants to Australian Citizens.
- Excellent students who hold a Bachelor of Mathematical Sciences, Statistics or Data Science or a double degree with Computer Science or equivalent would be especially suitable and encouraged to apply.
- Be willing to provide your personal details by way of a Student Deed Poll.

* Conditions apply

More about Defence Trailblazer

The Defence Trailblazer for Concept to Sovereign Capability is a once in a generation opportunity to strengthen the collaboration between defence, academia and industry whilst accelerating research and commercialisation.

In partnership with the University of Adelaide (UoA), the University of New South Wales (UNSW), industry partners and supported by the Australian Government, the initiative will skill the workforce of the future, support defence-focussed innovation, and play a leading role in accelerating the delivery of sovereign capabilities for the nation's security and prosperity...at-speed and at-scale.

Learn more: https://dtb.solutions/

Industry Research Program

All students supported under the Defence Trailblazer initiative will participate in the Industry Research Program (IRP).

Candidates are located on-site at university and industry offices for at least 60 FTE days (pro-rated for eligible Masters candidates), to enable real-life professional development opportunities in an industry setting.

Defence Research Capability

Academics participating in Defence Trailblazer are leaders in their fields.

UNSW adds a critical dimension to preparing defence forces across areas as diverse as Autonomous Systems, Hypersonics, Sensors and Space. The UNSW Defence Capability Portfolio showcases UNSW's excellence in defence research and technology and highlights work across academia, government and industry, as well as with global policy makers, to create a hub of defence-related knowledge. The vision is to translate this knowledge into impact which can transform Australian and global societies.

There's no greater reassurance for our community than knowing we're well prepared to prevent or avert threats to our security. UofA researchers support this in every domain: on land and online; in space, the air and at sea, working extensively with the Department of Defence and defence-related organisations in a variety of ways—as an advisor, research partner and producer of high-quality, career-ready graduates equipped to make our world a better and more secure place.

Find out more about defence research at the University of Adelaide.

Further information

For a confidential discussion contact:

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Defence Trailblazer, together with UoA and UNSW, are actively working to support equity groups. We strongly encourage applications from people with a disability, veterans and women interested in working in non-traditional work settings
University of Adelaide CRICOS Number 00123M