UTS Scholarship Opportunity
UTS Faculty of Engineering and Information Technology (FEIT)
UTS Australian Artificial Intelligence Institute/ School of Computer Science

The Australian Artificial Intelligence Institute, sitting within the School of Computer Science has applications open for a scholarship opportunity for a talented and highly-motivated student to study high-quality and original **cross-disciplinary problems crossing AI, data science, and social sciences**. The opportunity is anticipated to commence in **January 2024**.

The project is "**Graph Representation Learning for Fair Teaming in Crisis Response**", and it is calling for applications for PhD a scholarship under the supervisory team of Dr Yi Zhang. Candidates with strong research track records including publications in **computer science, information systems, and information managemen**t and relevant disciplines are encouraged to apply. Previous research experience in **text mining, information retrieval** and **bibliometrics** is a plus.

Project description

This project aims to understand how scientific communities have responded to historical pandemic crises and how to best respond in the future to provide fair teaming solutions for new infectious disease crises. The project will develop a set of graph representation learning methods for fair teaming recommendation in crisis response through: 1) biomedical knowledge graph construction and learning, with novel models for emerging bio-entity extraction, relationship discovery, and fair graph representation learning for sensitive demographical attributes; 2) the recognition of fairness and the determinant of team success, with a subgraph contrastive learning-based prediction model for identifying core team units and considering trade-offs between fairness and team performance; and 3) learning to recommend fairly, with a measurement of graph-based maximum mean discrepancy, a meta learning method for fair graph representation learning, and a reinforcement learning-based search method for fair teaming recommendation. The project will support cross-disciplinary curriculum development by effectively bridging gaps in responsible AI and team science, fair project management, and risk management in science.

This is a joint project between researchers from the United States and Australia and funded by the Collaboration Opportunities in Responsible and Equitable AI under the U.S. National Science Foundation (NSF) and the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Research topics of interest include, but are not limited to:

- Heterogeneous entity extraction and relationship discovery in knowledge graphs
- Fair/explainable graph representation learning
- Fair teaming recommendations with knowledge graphs

About the Scholarship

The scholarship is supported by the UTS FEIT and aligns with the CSIRO-NSF AI Research Collaboration Program. Scholarships are available for high-quality international and domestic applicants. The scholarship is **$32,500 AUD** per year for **3.5 years**.

About you

- Demonstrated self-motivation and commitment to work on challenging research topics
- Demonstrated experience in undertaking research in the fields of computer science, information systems, and information management.
- Excellent written skills evidenced by scientific journal papers, conference papers, or technical reports.
- Excellent interpersonal and oral communication skills.
- Ability and capacity to implement required health and safety policies and procedures.
- Master's degree by research or First-Class Honours with strong academic records
- Major: Computer Science, Information Systems and Management, and Management Science.
- Meeting UTS English Proficiency requirement.

Our vision is to be a leading public university of technology recognised for our global impact. We are a

dynamic and innovative university, ranked by the Times Higher Education as Australia's top young university, and located in one of the world's most liveable cities. With a culturally diverse campus life and extensive international exchange and research programs, UTS prepares graduates for the workplaces of today and tomorrow.

How To Apply

Applicants must meet the eligibility and has the desire to pursue research in the proposed area.

Students should meet the UTS admission requirements to UTS PhD program. The minimum eligibility requirements for admission are available at https://www.uts.edu.au/future-students/postgraduate/essential-info/admission-requirements

Candidates must lodge their applications by email (including a CV, representative publications, and a full transcript of results of all subjects studied) to yi.zhang@uts.edu.au

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