Position Description – Research Fellow

Position Details

Position Title: Research Fellow, Machine Learning Privacy and Security

College/Portfolio: STEM College

School/Group: School of Computing Technologies

Campus Location: Based at RMIT Melbourne City campus.

Classification: Academic Level B

Employment Type: 1 year Fixed Term (Research)

Time Fraction: 1.0FTE

RMIT University

RMIT is a multi-sector university of technology, design and enterprise with more than 96,000 students and close to 10,000 staff globally. The University's mission is to help shape the world through research, innovation and engagement, and to create transformative experiences for students to prepare them for life and work.
https://www.rmit.edu.au/about
https://www.universitiesaustralia.edu.au/university/rmit-university/

Our three main campuses in Melbourne are located in the heart of the City, Brunswick and Bundoora. Other locations include Point Cook, Hamilton and Bendigo, two campuses in Vietnam (Hanoi and Ho Chi Minh City) and a centre in Barcelona, Spain. RMIT is a truly global university.
https://www.rmit.edu.au/about/our-locations-and-facilities

We are also committed to redefining our relationship in working with, and supporting, Indigenous self-determination. Our goal is to achieve lasting transformation by maturing our values, culture, policy and structures in a way that embeds reconciliation in everything we do. We are changing our ways of knowing, working and being to support sustainable reconciliation and activate a relationship between Indigenous and non-Indigenous staff, students and community. Our three campuses in Melbourne (City, Brunswick and Bundoora campuses) are located on the unceded lands of the people of the Woi Wurrung and Boon Wurrung language groups of the eastern Kulin Nation.

Why work at RMIT University

Our people make everything at the University possible. We encourage new approaches to work and learning, stimulating change to drive positive impact. Find out more about working at RMIT University, what we stand for and why we are an Employer of Choice.

https://www.rmit.edu.au/careers

We want to attract those who will make a difference. View RMIT's impressive standings in university rankings.
https://www.rmit.edu.au/about/facts-figures/reputation-and-rankings

STEM College

The STEM College holds a leading position and expertise in the science, technology, engineering, mathematics and health (STEM) fields. We are uniquely positioned to influence and partner with industry, as never before.

STEM College is a community of exceptional STEM researchers, teachers, inventors, designers and game-changers, supported by talented professional staff. We offer higher education programs across all STEM disciplines at the Bachelor, Master and PhD levels, and ensure our students experience an education that is work-aligned and life-changing.

The College is renowned for its exemplary research in many STEM areas including advanced manufacturing and design; computing technologies; health innovation and translational medicine; nano materials and devices; and sustainable systems. Our brilliant researchers attract funding from government and industry sources.

Industry is at the heart of what we do. It ensures our research has real world impact, and our students are truly work-ready. Under the leadership of DVC STEM College & Vice President, Digital Innovation, we have established new hubs of industry-connected digital innovation and endeavour and are engaging with global STEM organisations at scale.

Our diversity and shared values empower our work, and we are proud of the College's inclusive, caring culture. We offer a safe, dynamic work environment, and support every member of our community to achieve their potential. The College appointed Victoria's first ever Dean of STEM, Diversity & Inclusion in 2020, and this role drives gender equity, diversity and inclusion strategies across the College.

STEM College employs 1,000 staff who deliver onshore and offshore programs to approximately 20,000 students.

We are here to positively impact the world and create the next generation of STEM leaders.
https://www.rmit.edu.au/about/schools-colleges/stem-college

School of Computing Technologies

The School of Computing Technologies is a centre for digital innovation, world class research, and education in STEM via streamlined collaboration across relevant disciplines.

The School is led by the Dean, School of Computing Technologies, and has three disciplines:

- Cyber Security & Software System (CSSS)
- Data Science & Artificial Intelligence (DSAI)
- Interaction, Technology & Information (ITI)

Our PhD students and faculty conduct world leading research in many areas of Computing and Computing applications, including in:

- Artificial Intelligence and Natural Language Processing
- Search and Recommendation
- Data Science, Machine Learning, and Big Data Analysis
- Cybersecurity
- Distributed Computing
- Software Engineering
- Human-Computer Interaction
- Digital Health

We have recently redesigned our undergraduate programs to provide a common foundation in programming for all SCT undergraduates. Our approach is centred on an innovative Bootcamp2Studio model that makes use of immersive and challenge-based pedagogy to drive higher-level learning.

SCT will further fast-track digital innovation across all College teaching programs and elevate our external position as a leader in technology and digital innovation. The School's leadership is tasked with the significant responsibility of building the architecture and capability to position RMIT with a supercomputer capacity and a world class digital learning lab which will support interdisciplinary activities, including integration of augmented reality and other advanced technologies into teaching.

The strong focus on technology led by the School of Computing Technologies will drive the development of new capability platforms and enable the ability for RMIT to be embedded within industry and leading local and international research organisations.

Position Summary

The School of Computing Technologies is seeking a post-doctoral Research Fellow in Machine Learning Privacy and Security for a fixed term position. In this position you will carry out independent and/or team research which has a significant impact in the fields of cybersecurity and trustworthy artificial intelligence and be acknowledged at a national level as being influential in expanding the knowledge of your relevant discipline.

The Research Fellow will be based in the research group of Professor Xun Yi, Professor Karin Verspoor, Dr Xiaoning (Maggie) Liu and collaborate with a cybersecurity industry partner. This position provides an opportunity for an emerging researcher to build their research career in the context of research with strong practical value and social impact.

The Research Fellow's role is primarily to design, implement, and evaluate secure and privacy-preserving machine learning solutions that are aligned to the project objectives: 1) modelling maliciously secure trust model with distributed trusts; 2) designing secure and lightweight machine learning protocols and systems; 3) software engineering, deployment and evaluation of proof-of-concept systems to various operational environments or application contexts.

The Research Fellow will embed their research expertise into the life of the School and will be expected to engage in high quality research projects with significant outputs, participate in supervising PhD students, and support efforts to attract further research funding. The Research Fellow will establish high-quality research and collaboration networks across RMIT and with local and national, internal and external partners, to support their own professional development and to increase the impact of research otucomes.

Reporting Line

Reports to: Professor Xun Yi
Project: Privacy-Preserving Collaborative Analytics on Sensitive Data

Organisational Accountabilities

RMIT University is committed to the health, safety and wellbeing of its staff. RMIT and its staff must comply with a range of statutory requirements, including equal opportunity, occupational health and safety, privacy and trade practice. RMIT also expects staff to comply with its policy and procedures, which relate to statutory requirements and our ways of working.

Appointees are accountable for completing training on these matters and ensuring their knowledge and the knowledge of their staff is up to date.

Key Accountabilities

1. Conduct high quality research individually or as part of a team including: executing research projects within timelines and ensuring compliance with quality and reporting requirements; data preparation and annotation; publishing research results in high quality outlets as lead or co-author; preparing and submitting external research funding applications; and supervising higher degree by research candidates.
2. Actively contribute to the development of research aims in collaboration with the broader research team.

3. Development, implementation, and evaluation of natural language processing solutions for text classification and information extraction within the project context.
4. Undertake 10% teaching and learning program appropriate to areas of expertise.

Key Selection Criteria

1. Experience in privacy-preserving machine learning through privacy-enhancing techniques is preferred; Other trustworthy AI expertise on safety, security, and privacy, and/or advanced data analytics or machine learning experience may also be considered.
2. Awareness of the challenges of working with and the need to protect sensitive data.
3. Applied orientation with desire for translational impact.
4. Strong programming skills and the ability to implement practical systems.
5. Emerging track record and recognition for quality research outputs on topics relevant to project objectives as evidenced by publications.
6. Demonstrated ability to supervise higher degree by research candidates.
7. Ability to build effective networks with colleagues.
8. Excellent interpersonal and communications skills appropriate for interacting with higher degree by research candidates, colleagues, both technical and non-technical collaborators, coupled with a strong commitment to teamwork and multidisciplinary collaboration.
9. Ability to contribute to existing project and School research areas, development of new research initiatives, competitive research funding, and industry links.

Qualifications

Mandatory: PhD or equivalent[1] in relevant field.

Note: Appointment to this position is subject to passing a Working with Children Check and other checks as required by the specific role. Maintaining a valid Working With Children Check is a condition of employment at RMIT.

[1] Equivalence is defined in the exemption criteria at **Appointment of staff without Doctoral qualifications** instruction