Position Description – Postdoc Research Fellow in applied LLM

Position Details

Position Title: Postdoctoral Research Fellow - Applied Large Language Modelling

College/Portfolio: College of Science, Technology, Engineering and Mathematics

School/Group: School of Science

Campus Location: Based at the Melbourne city campus, may be required to work and/or be based at other campuses of the University.

Classification: Academic A8---B1 (Depending on qualifications and experience)

Employment Type: Fixed Term (Research)

Time Fraction: 1.0

RMIT University

RMIT is a multi-sector university of technology, design and enterprise. 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. For more information on RMIT University follow the links below.
https://www.rmit.edu.au/about
https://www.universitiesaustralia.edu.au/university/rmit-university/
https://www.rmit.edu.au/about/facts-figures

Our three main campuses in Melbourne are located in the heart of the City, Brunswick, Bundoora and Point Cook, along with other Victorian locations. There are also 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

School of Science

The School of Science delivers excellence in applied research and education, engaging in strong impactful industry partnerships and producing skilled, industry-ready graduates.

The School employs over 120 academic and 60 FTE research staff across five academic Disciplines (Applied Chemistry and Environmental Sciences; Biosciences and Food Technology; Geospatial Sciences, Mathematical Sciences; Physics).

Across learning and teaching and research, the School partners actively with industry and external stakeholders in Australia and internationally, delivering innovation, research translation and providing knowledge and real-world solutions for societal good and to enhance sustainable development. The School is strongly committed to promoting and enhancing diversity and inclusion and seeks also to activate and develop its commitment to reconciliation.

Details of the School can be found at:
https://www.rmit.edu.au/about/schools-colleges/science

Position Summary

The Postdoctoral Research Fellow will contribute to a range of research and research translation activities as part of an Australia Economic Accelerator funded project developing a prototype using Large Language Models (LLM) to query and reason geospatial data. The project aims to develop a pilot decision support systems in collaboration with industry partners. The Postdoctoral Research Fellow will undertake research in applied LLMs, knowledge engineering and geospatial analytics and assist in the development of web application and software packages to translate the research outcomes. In particular, the Research Fellow will contribute in applying advanced techniques to increase the accuracy and speed of an LLM in querying geospatial data and thus improving user experience of the decision support systems.

Reporting Line

Reports to: Research Fellow

Organizational 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.

RMIT is committed to providing a safe environment for children and young people in our community. Read about our commitment and child safe practices. https://www.rmit.edu.au/about/our-locations-and-facilities/facilities/safety-security/child-safety.

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

- Investigate cutting-edge techniques in spatial knowledge query using LLM.
- Evaluate and experiment with leading LLM to locate the most suitable model in terms of accuracy and speed.
- Learn and apply agentic programming frameworks to better prepare the system to be production ready.
- Participate in the design, implementation and deployment of a Text to SPARQL system.
- Assist in the development of a new LLM-based decision support web application.
- Assist in the development of spatial knowledge management software.
- Assist in developing case studies with key industry partners.

Key Selection Criteria

Mandatory
1. Demonstrated experience in the application of LLM.
2. Demonstrated experience in programming in Python.
3. Ability to learn new technology and new tools rapidly.
4. Good communication skills appropriate for multidisciplinary collaboration.
5. Ability to coordinate teams and conduct timely management of research projects.

Preferable
1. A PhD degree in relevant area.
2. Demonstrated experience in web application development.
3. Experience in machine learning/deep learning projects.
4. Emerging track record and recognition for quality research outputs.

Qualifications

Preferred: PhD in relevant field such as (but not limited to) computer science and geospatial science.

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.

Endorsed:	Signature: Name: Title: Date:	**Approved:**	Signature: Name: Title: Date: