POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow in Machine Learning
Organisation Unit: School of Information Technology and Electrical Engineering
Position Number: 3041332
Type of Employment: Full-time, fixed term for 3 years
Classification: Academic Research Level A

THE UNIVERSITY OF QUEENSLAND

The University of Queensland (UQ) contributes positively to society by engaging in the creation, preservation, transfer and application of knowledge. UQ helps shape the future by bringing together and developing leaders in their fields to inspire the next generation and to advance ideas that benefit the world. UQ strives for the personal and professional success of its students, staff and alumni. For more than a century, we have educated and worked with outstanding people to deliver knowledge leadership for a better world.

UQ ranks in the world’s top universities, as measured by several key independent ranking, including the Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (52), QS World University Rankings (47), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (60). UQ again topped the nation in the prestigious Nature Index and our Life Sciences subject field ranking in the Academic Ranking of World Universities was the highest in Australia at 20.

UQ has an outstanding reputation for the quality of its teachers, its educational programs and employment outcomes for its students. Our students remain at the heart of what we do. The UQ experience – the UQ Advantage – is distinguished by a research enriched curriculum, international collaborations, industry engagement and opportunities that nurture and develop future leaders. UQ has a strong focus on teaching excellence, winning more national teaching excellence awards than any other in the country and attracting the majority of Queensland’s highest academic achievers, as well as top interstate and overseas students.

UQ is one of Australia’s Group of Eight, a charter member of edX and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

Our 50,000-plus strong student community includes more than 13,000 postgraduate scholars and more than 12,000 international students from 144 countries, adding to its proud 240,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.8 billion annual operating budget. Its major campuses are at St Lucia, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city. The University has six Faculties and four University-level Institutes. The Institutes, funded by government and industry grants, philanthropy and commercialisation activities, have built scale and focus in research areas in neuroscience, biomolecular and biomedical sciences,
sustainable minerals, bioengineering and nanotechnology, as well as social science research.

UQ has an outstanding track-record in commercialisation of our innovation with major technologies employed across the globe and integral to gross product sales of $11billion+ (see http://uniquest.com.au/our-track-record).

UQ has a rapidly growing record of attracting philanthropic support for its activities and this will be a strategic focus going forward.

School of Information Technology & Electrical Engineering

It is an exciting time to get involved with the School of Information Technology and Electrical Engineering, located on UQ's St. Lucia campus. The School is ramping up its investment in teaching, research and engagement to create an inspiring, diverse and flexible workplace. The direction is backed by a bold, new strategic vision to ensure the School is at the forefront of meaningful research outcomes and pedagogy across its core impact areas of health, data, automation and energy. Boasting strong student enrolments in professionally accredited programs, combined with world-class researchers and facilities, the School is focused on strengthening its position in the global computer science and engineering communities. By attracting the brightest minds and fostering a truly innovative and collaborative work environment, the School will develop global solutions to contemporary issues and mentor the leaders of tomorrow.

The School recognises and values equity and diversity, and encourages applications from any individual who meets the requirements of this position irrespective of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes. The School strives to provide an inclusive working environment, and along with the University is committed to supporting staff with family and caring responsibilities by providing policies, programs and initiatives to help balance work and family responsibilities.

Details of the School may be accessed on its website at http://www.itee.uq.edu.au/.

Information for Prospective Staff

Information about life at UQ including staff benefits, relocation and UQ campuses is available at - http://www.uq.edu.au/current-staff/working-at-uq

The University of Queensland Enterprise Agreement outlines the position classification standards for Levels A to E.

DUTY STATEMENT

Primary Purpose of Position

The appointee will work in close collaboration with a team of researchers on projects related to the development of a system to monitor traffic, identify vehicles and detect anomalies using a network of in-road microwave sensors. Applicants should possess qualifications in relevant disciplines and demonstrate achievement and knowledge in machine learning, data mining, sensor fusion, as well as demonstrated competency in C/C++, Python and/or MATLAB.

In addition, the appointee may have to contribute to other projects run by the team as per the supervisor instructions.
The position is funded by Transport and Public Research Network (TPRN) Project. The appointee will be required to disseminate outcomes of the work in high quality publications and potential commercialization.

Duties

Duties and responsibilities include, but are not limited to:

Research
- Design, conduct and implement research plans in the area assigned by the supervisor and publish scholarly papers. Specifically, developing novel algorithms for data analysis, fusion and anomaly detection using data of distributed sensors.
- Prepare reports as required by the funding body and industry partner to meet the established deadlines.
- Collaborate with project research partners in industry and academia.
- Work with colleagues and postgraduates in the development and carrying out of research projects.
- Preparation of joint manuscripts, reports of experimental findings for publications and presentations.
- Participation in activities associated with preparing for, running and processing data from field trials and laboratory experiments.
- Accurately record experiments and experimental results to the standard required by the supervisor and industry partner.
- Any other duties as reasonably directed by your supervisor.

Service and Engagement
- Contribute to the processes that enable the research team to manage the work of the team, including participation in team meetings, decision-making and committees.

Other
Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including but not exclusive to:
- the University's Code of Conduct
- requirements of the Queensland occupational health and safety (OH&S) legislation and related OH&S responsibilities and procedures developed by the University or Institute/School
- the adoption sustainable practices in all work activities and compliance with associated legislation and related University sustainability responsibilities and procedures
- requirements of the Education Services for Overseas Students Act 2000, the National Code 2007 and associated legislation, and related responsibilities and procedures developed by the University

Organisational Relationships
The position reports to Professor Amin Abbosh, School of Information Technology and Electrical Engineering, The University of Queensland
SELECTION CRITERIA

Essential

- PhD (or equivalent) in electrical engineering, computer science or a closely related field
- Demonstrated expert knowledge in any of the areas of Machine Learning, Data Mining, or Signal Processing.
- Evidence of contribution to research, including authorship of any institutional and external competitive grant applications.
- Record of research publications in reputed peer reviewed journals and conferences.
- Demonstrated experience in working within a group and delivering quality outcomes in time constricted R&D projects.
- Demonstrated high-level interpersonal skills including the ability to communicate, consult and negotiate with a multidisciplinary team and stakeholders to ensure project objectives are met.
- An ability to establish effective relationships and to represent and promote academic discipline at a university and wider community level, including industry, government and professional bodies.

Desirable

- Knowledge of issues and challenges of building working software with strong skills in software design, development and debugging.
- Familiarity with standards or technology such as supervised/unsupervised learning, and real-time data analytics.
- Experience in liaising and collaborating with external agencies to develop co-operative research initiatives.
- Contribute to the effective supervision of Honours and Research Higher Degree students.

Qualification Verification

An appointment to this position is subject to the verification of the highest academic qualification from the conferring institution.

The University of Queensland values diversity and inclusion and actively encourages applications from those who bring diversity to the University. Please refer to the University’s Diversity and Inclusion webpage (http://www.uq.edu.au/equity) for further information and points of contact if you require additional support.

This role is a full-time position; however flexible working arrangements may be negotiated.

Accessibility requirements and/or adjustments can be directed to the contact person listed in the job advertisement.