POSITION DESCRIPTION

Position Title: Senior Data Services Engineer
Organisation Unit: TERN
Position Number: New
Type of Employment: Full-time, Fixed-term until June 2019
Classification: Hew Level 7

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 (65). 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.

V6.2 October 2017
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://uniqquest.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.

Organisational Environment

TERN is an Australian Government initiative to enhance Australia’s environmental research effort. TERN coordinates a nationally distributed set of instrumentation and data, and information services which collectively contribute to meeting the needs of terrestrial ecosystem research and other users in Australia for land observing systems. The infrastructure also contributes to Australia’s role in international programs in areas such as global flux observing. TERN was established in 2009 by a National Collaborative Research Infrastructure Strategy (NCRIS) grant from the Australian Government Department of Education and Training (DoET). Through a number of extensions and renewals of its grant, TERN’s funding is currently in place until June 2019.

The TERN infrastructure investments are distributed widely and are coordinated and managed nationally by the TERN Office at the University of Queensland (UQ) in Brisbane. The capabilities of TERN are operated by institutions - termed Operators - under agreements with the TERN Office. A key strategic objective is to sustain TERN into the longer term.

Information about the Faculty and the School may be accessed on the Faculty’s web site at http://www.tern.org.au.

Information for Prospective Staff

This position is based in the TERN Office at the University of Queensland (UQ) in Brisbane. Travel to other TERN facilities may be required as part of the position.

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

DUTY STATEMENT

Primary Purpose of Position

The software engineer will work in the TERN Office at UQ on data delivery projects for TERN. In particular, the successful applicant will work on the ongoing development of web-based metadata catalogue services and a web-based data and metadata management system (data harvest, integrate and visualisation, and metadata authoring and DOI minting service) for the ecosystem science community. The successful applicant will be required to work both independently and as part of team to develop innovative web-based interfaces and tools to publish and visualise large complex ecosystem data and model outputs. Duties will also include setting up and managing application servers used in the project and liaison with technical members of TERN to implement collaborative web-based ecosystem data delivery and visualisation projects.
Duties

Duties and responsibilities include, but are not limited to:

- Participation in the overall TERN data capability delivery planning.
- Work with ecosystem scientists on the development of software routines and data services for gridded data.
- Work with Open Geospatial Consortium web services suite, and open source software frameworks and related services.
- Work with metadata standards and metadata publishing servers.
- Work with metadata and data representation and delivery standards.
- Develop and maintain spatial databases and data services.
- Design and develop web services to host and deliver large-scale data.
- Manage and maintain Linux based application servers.
- Manage and document software and data services development activities.
- Development of analytics components for scientific data.
- Work in the cloud infrastructure to develop and host applications.
- Present work at conferences, workshops and office project meetings.
- Provide technical advice and support to ecosystem science community.
- Any other duties as reasonably directed by your supervisor

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 of 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 the TERN Data Science Program Leader.
SELECTION CRITERIA

Essential

- A degree in Computer Science, Information Technology, Software Engineering, remote sensing, environmental science or related field.
- Solid experience in software development languages such as Java and Python
- Experience in web technologies such as Apache, Tomcat, PHP, or similar.
- Experience is deploying and using Geoserver, THREDDS and Geonetwork.
- Experience in web application development using XML, XSLT, AJAX, JavaScript, PHP, JQuery, JSON, HTML5, CSS and Freemarker Template Language.
- Good working experience in automation/configuration management using Ansible, Docker, Kubernetes.
- Ability to use a wide variety of open source technologies and cloud services (experience with OpenStack is beneficial).
- Knowledge of best practices and IT operations in an Always-on, Always-Available services.
- Experience in relational and spatial databases (PostgreSQL, PostGIS and/or Oracle Spatial, My SQL Spatial).
- Experience in software version control (Git) and Wiki.
- Experience in developing and deploying web applications in a linux environment.
- Good understanding of software development lifecycle.
- Good understanding of research data management and metadata standards.
- Experience in managing remote sensing data collections.
- Knowledge and working experience in different data formats, data types, data standards, metadata standards.
- Knowledge of big data concepts and writing cloud applications.
- Demonstrated ability to exercise initiative and judgement as appropriate.
- Demonstrated ability to work across different disciplines; work independently and consistently; ability to effectively manage time, prioritise tasks and meet deadlines.
- High-level interpersonal skills including the ability to consult and negotiate with other stakeholders to ensure project objectives are met.
- Ability to learn new software and methodologies to solve challenging software development problems.
- Ability to work as a team as well as independently with minimal supervision.

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.

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