Research Projects – CSOF6

Role summary for potential applicants

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| Advertised Job Title**:** | Senior Software Engineer  |
| Reference Number**:** | 33303 |
| Classification | CSOF6 |
| Salary Range: | AU $106K - $124K plus up to 15.4% superannuation |
| Location**:** | Eveleigh, Sydney NSW |
| Tenure: | Indefinite |
| Relocation assistance**:** | Will be provided to the successful candidate if required |
| Applications are open to: | Australian/New Zealand Citizens and Permanent Residents only |
| **Functional Area:** | Research Projects |
| **% Client Focus - Internal:** | 20% |
| **% Client Focus - External:** | 80% |
| Reports to the: | Team Leader – Smart Infrastructure Engineering |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| As a Senior Software Engineer in the Engineering & Design program, you will work closely with software engineers, researchers and our user experience team to build products from Data61 research and technology. The role is to produce innovative software for commercial and government customers. As part of the Smart Infrastructure Engineering team, you will apply sensing, machine learning and cloud technologies to a range of applications, from monitoring of civil infrastructure to precision agriculture.A strong, demonstrated understanding current technical best practice in developing complex, data-intensive, distributed applications is essential for this role.  |

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| **Duties and Key Result Areas:** |
| * Develop software and systems building on Data61's research in areas such as machine learning, optimisation and computer vision
* Lead software and system architectural design activities
* Follow and implement recognised software engineering best practices including documentation, test-driven development and automation for ensuring software quality, performance, accessibility, maintainability and reusability
* Work collaboratively with project team members and others across Data61 to ensure that project goals and Data61’s goals are achieved
* Ensure that DevOps processes are in place to manage software builds and releases
* Contribute to open source development and participate in the broader development community as appropriate
* Contribute to Data61’s engineering discipline by improving use of software development tools, practices and culture
* Maintain high ethical and performance standards
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals
* Other duties as directed
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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed****Pre-requisite**** **Education/Qualifications:** ABachelor degree in a scientific or engineering discipline such as Computer Science or equivalent commercial experience in software engineering
* **Communication:** High-level communication skills, both written and oral, including the ability to anticipate the interests and knowledge level of an audience and present information and feedback accordingly

***Essential criteria***1. Demonstrated senior expertise in software architecture, design and implementation, delivering robust and maintainable code to solve business problems
2. Experience with varied programming language paradigms (procedural/object-oriented/functional, static/dynamic typing)
3. Experience with contemporary software development tools and practises: version control, unit testing, automated testing, issue tracking

***Desirable criteria***1. Imperative (Python) and functional (Scala, Haskell) programming languages
2. Web application stack (frontend/single-page apps, server-side rendering, RESTful APIs, backend services)
3. Design patterns: microservices, CQRS, event sourcing
4. SQL and NoSQL database design: administration, performance tuning, schema design and modelling, stored procedures, triggers, clustering, query design and evaluation
5. Linux/UNIX and cloud development (AWS and others)
6. DevOps (Ansible, CloudFormation) and virtualisation/container (Docker, Kubernetes, Vagrant) technologies
7. Continuous integration/continuous deployment (Jenkins)
8. Message queues (Kafka, Kinesis, NATS, RabbitMQ)
9. Agile project management

**CSIRO Values:**As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinnedby our values. In your application and at interviews you will need to demonstrate behaviours aligned with these values:* Integrity of Excellent Science
* Trust & Respect
* Creative Spirit
* Delivering on Commitments
* Health, Safety & Sustainability

*In Data61, our leaders will be expected to demonstrate the following values:** **Hierarchy**: Country, Company, Team, Individual
* **Openness**: Open debate, collaboration, full commitment
* **Learning**: Calculated risks, institutionalise learning, fast cadence
* **Impact**: Tackle hard problems, create the future, focus on outcomes
* **Stewardship**: Lead, make each function and co. stronger over time
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| **Other Information:** |
| **How to Apply**Please apply for this position online at [www.csiro.au/careers](http://www.csiro.au/careers).  You will need to upload both your cover letter and resume/CV as one document, expressing your interest in the role and broadly addressing your suitability. Please include, with publicly available URLs if possible, examples of your best work (completed website / app projects, personal website, github, codepen, etc). Should your application proceed to the next step, you may be asked to provide additional information, including references.If you experience difficulties applying online call 1300 984 220 and someone will be able to assist you. Outside business hours please email: csiro-careers@csiro.au**Contact:** If after reading the selection documentation you require further information please contact:* Melissa Sunteo via email: Melissa.Sunteo@data61.csiro.au or phone: 02 9490 5849. Please do not email your application directly. Applications received via this method will not be considered.

**About CSIRO**Australia is founding its future on science and innovation. Its national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation. Find out more! [www.csiro.au](http://www.csiro.au). **CSIRO’s** [**Data61**](https://www.data61.csiro.au/) business unit is the largest data innovation group in Australia, bringing together approximately 600 research and development staff working in digital technologies to create benefit for Australia. Data61 develops Australia's future leaders with its strong 300+ PhD student program in collaboration with our best universities across Australia.  |