POSITION DESCRIPTION

Research Projects – CSOF6

Role summary for potential applicants

Advertised Job Title:	Senior Research Software Engineer in Operating Systems
Reference Number:	56359
Classification:	CSOF6
Salary Range:	AU $109,474 to AU $128,282 plus up to 15.4% superannuation
Location:	Kensington, Sydney, NSW
Tenure:	Indefinite
Relocation assistance:	Will be provided to the successful candidate if required.
Applications are open to:	☐ Australian Citizens Only ☐ Australian/New Zealand Citizens and Australian Permanent Residents Only ☒ All Candidates
Functional Area:	Research Projects
% Client Focus - Internal:	50%
% Client Focus - External:	50%
Reports to the:	Systems Team Leader
Number of Direct Reports:	From 2-3 to around 7-8

Role Overview:

The role of Research Software Engineer staff in the Trustworthy Systems Group at Data61 CSIRO is to collaborate in engineering and scientific activities with other research and engineering staff, by designing, developing, and delivering high quality operating systems software and research demonstrators, and by transferring research technology to external collaborators and customers.

Specifically staff at this level will apply specialist expertise to solve complex problems in the systems engineering discipline and will take on responsibility for developing and implementing project plans, and analysing, validating and reporting results. Achievements may extend existing scientific knowledge of operating system design, which facilitates the development of new perspectives in the field of systems research. Staff are accountable for the quality of the results delivered, the alignment of the project activities with business and research directions and have a key advisory role in decisions concerning scientific direction.

Duties and Key Result Areas:

- Understand and apply latest research approaches to high-performance OS design and implementation;
- Evaluate system implementations, quantifying performance and trade-offs, and use this to guide the further design and development of such systems;
- Design, implement and optimise seL4 kernel mechanisms and system platform code with a high degree of independence;
- Engineer prototype solutions into releasable code of professional quality and have a leading role in the effective transfer of technology to industry and community.
- Develop and encourage good software engineering processes, including adhering to coding and documenting standards, participating in and driving code/specification/proof reviews and using appropriate frameworks, such as continuous integration;
- Lead teams of engineers, interns, students, and take responsibility for completing deliverables on time and according to stated objectives;
- Contribute to the development of project plans and advise team/group leadership on approaches to deliver on objectives;
- Contribute to project management and leadership;
- Contribute to publications of research results;
- Prepare and deliver presentations to Data61 staff and externals, as required;
- Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO's reputation;
- Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives;
- Provide instruction on activities pertaining to the immediate work area and responsibilities, as required;
- 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.

Selection Criteria:

Under CSIRO policy only those who meet all essential criteria can be appointed

Pre-Requisites:

1. **Education/Qualifications:** Relevant Bachelors/Masters Degree in Computer Science or Electrical Engineering.

2. **Communication:** Exceptional 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.

3. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.

4. **Adaptability:** The ability to effectively manage a number of competing priorities simultaneously, and carry out non-routine tasks independently.

5. **Problem Solving:**   Proven ability to anticipate problems in ambiguous situations, develop appropriate solutions based on thorough evaluation and interpretation, and defend the conclusions with reasoned arguments.

Essential **Criteria:**

1. Minimum of five years of post-graduate experience in the design and implementation of

       operating systems;

2. Track record of independently developing and designing solutions for OS design problems;

3. Extensive experience with and understanding of:

    a. the internals of the seL4 microkernel;

    b. building systems on top of seL4;

    c. programming in C and assembler;

    d. software engineering practices and development tools, such as git, issue trackers and continuous integration frameworks;

4. Ability to work effectively as part of a multi-disciplinary, regionally dispersed research and engineering team;

5. Experience leading an engineering team and delivering software to industry and community;

6. Familiarity with current research across formal methods and systems.

Desirable Criteria:

1. Experience designing and developing embedded and real-time systems;

2. Experience with functional programming languages;

3. Experience with formal verification;

4. Experience writing and contributing to scientific publications;

5. Experience delivering presentations at scientific conferences and/or industry events or customers.

As Australia's Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to:

- Excellent science
- Inclusion, trust & respect
- Health, safety & environment
- Delivery on commitments.

In your application and at interview you will need to demonstrate alignment with these behaviours.

Data61 Values:

Great Impact: We focus our valuable resources on areas where we can lead globally and have large impact for Australia, to aid our future prosperity and independence.

Mastery: We are fearless, curious and we improve every day. We strive to excel in research, technology and business, and to work with the best in the world.

Co-Creation of Value: Everything we do involves co-creation with our network: team, customers and partners. Generously empowering their success is central to our success.

Ownership of Results: We jointly hold ourselves accountable for our actions. We do this via trust and commitment.

People and their Differences: We embrace the creativity that comes from the diversity of our people.

Agility and Flexibility: We view the changing world as an opportunity. This requires agility and flexibility in everything we do; everything changes, except our constant desire to adapt.

Tell it Straight, with Respect: We say what we mean, mean what we say, and do not mislead, obfuscate or spin. We're direct and always respectful.

Special requirements:

Appointment to this role may be subject to conditions including security/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to

undergo additional security clearance processes; which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- http://www.ielts.org/default.aspx

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Other Information:

How to Apply

Please apply for this position online at https://jobs.csiro.au/ and enter requisition number **56359**. Internal applicants please apply via 'Jobs Central' in SAP (click 'Recruitment')

Please load your CV (Maximum 2MB). You may also be required to respond to some screening questions.

If you experience difficulties applying online call 1300 984 220 for assistance. Outside Australian business hours please email: csiro-careers@csiro.au.

Referees: Please provide contact details of two previous supervisor or academic/professional referees in your resume/CV. We will ask your permission before making contact.

Contact: If after reading the position details above you require more information please contact:

Ihor Kuz via email: ihor.kuz@data61.csiro.au or phone: **+61 2 9490 5882**

Please do not email your application directly to Ihor Kuz.   Applications received via this method may not be considered by the selection panel.

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.

We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you.

Find out more! CSIRO Balance

CSIRO Data61 In today's data-focused world, there's no doubt that numbers count. **Data61** are the largest data innovation group in Australia, a connector that brings together technology innovators, businesses and universities to transform Australian industry and to help solve our greatest challenges. A CSIRO business, we are creating our data-driven future.

Our commitment to you

We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you. We emphasise an individual's growth and development which is supported by interacting and learning from world leading scientists and engineers, who provide the opportunity to challenge, transform and innovate new ideas.

CSIRO's Data61 is committed to sourcing the brightest and best talent to become part of the Data61 family, which contributes to creating Australia's data driven future.