

Position Details

Research Scientist/Engineer- CSOF8

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| **Job Title**  | Senior Principal Researcher in Data Privacy  |
| **Job Reference**  | 74870  |
| **Tenure**  | Indefinite Full-time  |
| **Salary Range**  | AU$169,377 - AU$197,180 per annum (pro-rata for part-time) plus up to 15.4% superannuation  |
| **Location(s)**  | Sydney, NSW  |
| **Relocation Assistance**  | Will be provided  |
| **Position reports to the**  | Group Leader, Information Security and Privacy  |
| **Client Focus – Internal**  | 50%  |
| **Client Focus – External**  | 50%  |
| **Number of Direct Reports**  | 0  |
| **Enquire about this job**  | Contact Thierry Rakotoarivelo via email at thierry.rakotoarivelo@data61.csiro.au  |

# Role Overview

The role of Senior Principal Researcher in CSIRO is to lead and conduct innovative research producing scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to lead and conduct impactful research, build and maintain networks, mentor and work in collaboration with other researchers, and drive initiatives to secure project funds. You will contribute to the strategic research directions of the group, initiate and pursue new ideas and approaches that create new concepts and will provide scientific leadership in your team and group.

The role of the Senior Principal Researcher is to lead world-leading research activities in the domain of Data Privacy and Confidentiality, with a focus on data-driven impactful real-life, domain-focused applications. You will contribute to the design and implementation of the group’s scientific strategy, taking ownership for significant parts of that strategy and encouraging group members to contribute. You will be responsible for identifying trends in research, the development and submission of related research proposals, the leadership of approved research initiatives, as well as being responsible for significant research activities in such initiatives. These activities will be focused on provable privacy preserving mechanisms for Machine Learning and Artificial Intelligence algorithms, similar mechanisms for data release and/or data analytics, as well as the design of metrics and methods for privacy and confidentiality risk quantification. A successful candidate will be recognised as an international authority in these areas of expertise and typically possess knowledge across a range of scientific disciplines and a strong related network of industry/academic collaborators. You will also lead research projects, co-ordinate staff and manage expectations of stakeholders, to deliver great outcomes through innovative science in practical applications.

The Senior Principal Researcher will contribute to Data61’s strategy, aiming to achieve the exciting and challenging goals of enabling the use of data in the digital economy while preserving the privacy of individuals and the confidentiality of businesses. The research to be undertaken will target the most prestigious international publication venues and aims to educate Australia’s best undergraduate and postgraduate students.

# Duties and Key Result Areas

* Drive and perform ground-breaking research in Data Privacy and Confidentiality Preserving Technology and its intersection with Machine Learning and Artificial Intelligence. Lead and manage some of the group’s R&D projects to deliver world-class research outcomes in the form of innovative products, software, IP, and high calibre competitive research publications, with an impact on the target domain of the project.
* Actively build new collaborations and strengthen Data61’s network of industry partners, government agencies and academics. Engage with them to initiate, develop, seek approval or funding, and lead and manage significant research initiatives and projects aligned with the group’s research strategy and with potential commercial outcomes.
* Identify research and industry trends in Data Privacy and Confidentiality and related research areas. Contribute to the design of the group’s scientific strategy, inform portfolio analysis, and influence the Research Program, Business Unit, and CSIRO’s research directions based on such trends.
* Provide scientific and engineering leadership and mentorship to colleagues and students and coordinate, allocate and manage resources to carry out innovative and impactful privacy research of strategic importance to CSIRO Data61.
* Be recognised as an international authority in data privacy and confidentiality and typically possess knowledge across a range of scientific disciplines. Represent CSIRO Data61 and the research group both nationally or internationally in prestigious events to deliver talks, express leading thoughts, disseminate scientific results and research outcomes, advise policy makers and transfer knowledge to non-scientific audiences.
* Lead significant research work collaboratively as part of a multi-disciplinary, often regionally dispersed research teams, business units, or CSIRO initiatives (e.g., Missions, Future Science Platforms) to support the group’s scientific strategy, and CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and

Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.

* Other duties as directed.

# Selection Criteria

**Essential**

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

1. A PhD in a discipline area related to Data Privacy and Confidentiality, such as computer science, data science, applied mathematics, machine learning and artificial intelligence, cybersecurity, or another related field with relevant evidenced experience in the theoretical areas underlying privacy enhancing technologies.
2. An outstanding publication track record demonstrated through repetitive high visibility papers which were published in the top peer-reviewed conferences and journals focusing on data privacy and confidentiality or closely related research fields (e.g., computer science, machine learning, cybersecurity).
3. An established reputation and credibility within the online data privacy and confidentiality community, or a closely related field (e.g., data science, machine learning, cybersecurity) with evidence of community recognition.
4. Demonstrated experience in research leadership via managing research teams and/or leading significant research initiatives with real-life, domain-focused outcomes.
5. A demonstrated ability to develop research strategies, and propose novel multi-disciplinary related initiatives, through competitive funding, focusing on technologies related to data privacy and confidentiality including (but not limited to) data privacy measurement and modelling, data privacy preserving systems and technologies, privacy and confidentiality in machine learning algorithms, or to a closely related research field (e.g., machine learning, cybersecurity, data science)
6. A demonstrated ability to lead such multi-disciplinary initiatives or projects when approved for funding, including being responsible for and conducting significant parts of the related research activities, managing teams, consulting stakeholders, and seeking to deliver best outcomes for the project.
7. Demonstrated record of applying technologies related to data privacy and confidentiality or closely related fields (e.g., machine learning, cybersecurity, data science) to application domains (such as digital agriculture, digital services, cybersecurity, education, health, etc) with evidenced outcomes and impacts.
8. Demonstrated ability to collaborate and work on multi-disciplinary challenges through successful collaborations with researchers from industry and academia.
9. Demonstrated high level of oral and written communication skills with the ability to represent Data61 research externally to both academia, government and industry.

**Desirable**

1. A strong established network of industry and network collaborators in privacy and confidentiality technologies and related areas (e.g., machine learning, cybersecurity, computer science) or potential application domains (such as digital agriculture, digital services, cybersecurity, education, health, etc).
2. Previous experience in leading and performing research in fairness, accountability, and trust for machine learning and artificial intelligence algorithms.
3. A record of science innovation and creativity plus the ability and willingness to incorporate novel ideas and approaches into scientific investigations.
4. Demonstrated ability to adapt own research directions and priorities to align with evolving group and organisational research strategies
5. Familiarity with privacy policies and frameworks, with an understanding of the differences between privacy risk and privacy compliance.
6. An understanding of the classes of privacy preserving technology (e.g. statistical disclosure, differential privacy, etc), and their inherent multidimensional trade-offs (e.g. privacy, utility, fairness)

# Required Competencies

* **Teamwork and Collaboration:** Creates and fosters an environment in which there is a high level of cooperation within and between teams. Facilitates positive team relationships to build interactions across Business Units and the organisation.
* **Influence and Communication:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **Resource Management/Leadership:** Contributes to, or defines Business Unit / organisational policy directions, strategic planning and operationalises the vision for staff and gains commitment to the direction chosen. Plans, seeks, allocates resources and monitors to achieve outcomes. Adopts a mentor role.
* **Judgement and Problem Solving:** Resolves major conceptual scientific, technical, commercial or management problems, which have a significant impact upon the field of research, professional function, the Business Unit or the Organisation. Situations faced have little or no precedent and require original concepts and approaches.
* **Independence:** Commits significant resources in the face of uncertainty and takes calculated risks to improve performance and achieve challenging goals. Uses personal energy to drive change strategies. Formulates and implements contingency plans to minimise the impact of potential risks. Accepts personal responsibility for the outcomes of decisions/risks taken.
* **Adaptability:**Is flexible in response to external change or when faced with external constraints. Identifies and promotes the opportunities arising as a result of change.

# Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

## About CSIRO

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [CSIRO Data61](https://www.data61.csiro.au/) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted