# backgroundData 61 and CSIRO logoResearch Scientist/Engineer – CSOF5-CSOF6

Role summary for potential applicants

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| Advertised Job Title**:** | Research Scientist in Machine Learning |
| Reference Number**:** | 44130 |
| Classification**:** | CSOF5/6 |
| Salary Range: | AU $95K to AU $128K plus up to 15.4% superannuationSalary level will be depended on level experience |
| Location**:** | Eveleigh, Sydney NSW preferred |
| Tenure: | 2 year fixed-term contract |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | All Candidates |
| Functional Area**:** | Research Scientist/Engineer |
| Number of Direct Reports: | 0 |
| Reports to the: | Group Leader – Machine Learning/Team Leader – Confidential Computing |

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| **Role Overview:** |
| The Research Scientist role is part of a diverse and agile team which is focused on "confidential computing” and developing new methods for learning from confidential and sensitive data in federated environments.The role will work within the n1analytics team, a team of researchers, and engineering, from different domains, such as Machine Learning, Cryptography, and Software Engineering, as well as UX & Business Development experts.The Research Scientist will solve real-world distributed machine learning problems with confidentiality constrains and contribute to one of the foundational platform for federated confidential computing.Data61 is the largest data innovation group in Australia. We are unrivalled in our intellectual capital and our network with the global technology marketplace. The combined group will bring together approximately 600 research staff working in digital technologies to create benefit for Australia. Data61 will continue to develop Australia’s future leaders with its strong 300+ PhD student program in collaboration with our best universities across Australia. |

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| **Duties and Key Result Areas:** |
| * Researching, designing and developing new algorithms for protecting data and learning from protected data in distributed environments, exploiting expertise in statistical machine learning, distributed learning, cryptography or other methods of data protection such as differential privacy.
* Producing high quality scientific and/or engineering artefacts (e.g., papers, patents, code, and demos) suitable for publication in leading national and international venues.
* Building elegant, efficient and readable code.
* Under the guidance of Senior Research Scientists and Engineers, work collaboratively and honestly with internal and external colleagues, clients and partners to help define and satisfy objectives for research projects.
* Maintaining high ethical and performance standards.
* Adhering 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.

**For appointment at the higher salary level (CSOF6), duties will also include:*** Advising policy makers and informing and transferring knowledge to non-scientific audiences.
* Introduce new directions and approaches; solving complex problems using own professional expertise and knowledge of other disciplines and research areas.
* Lead small research projects and assist with elements of larger projects including the negotiation of resource requirements.
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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed****Pre-Requisites:***1. **Education/Qualifications:** A doctorate and/or equivalent research experience in a relevant discipline area, such as statistical machine learning, distributed learning, cryptography, differential privacy and algorithmic data protection, computer vision.
2. **Communication:** Strong written and oral communication skills including the ability to publish research results, prepare reports and present the results of scientific investigations at national and international conferences and stakeholder meetings.
3. **Publications: A solid record of publication in quality, peer reviewed journals.**
4. **Behaviours: A history of professional and respectful behaviours and attitudes in a collaborative environment.**

***Essential Criteria:***1. Experience in one or more of the following: machine learning, statistical learning, distributed learning, cryptography, differential privacy.
2. Experience solving problems using quantitative approaches on real-world data.
3. Experience with or proven track record of implementing machine learning algorithms.
4. A record of quality publications, in peer reviewed journals or conferences.
5. Ability to think creatively, to work collaboratively and to perform tasks under minimal supervision.
6. Ability & willingness to incorporate novel ideas and approaches into scientific investigations.

**Desirable Criteria:**1. A proven record of science innovation and creativity.
2. Exposure to deep learning libraries such as: tensorflow, torch, theano, etc.
3. Exposure to both industry and academic research.
4. Experience mentoring junior researchers or junior engineers.

**For appointment at the higher salary level (CSOF6), as well as satisfying the pre-requisites and essential criteria listed above, you must also have:**1. Experiencecollaborating and engaging with industry with the ability to deliver projects to clients*.*
2. A record of quality publications as primary author in high impact, peer reviewed journals or conferences.
3. A record of science innovation and creativity plus the ability to apply well developed research skills to scientific investigations.

**CSIRO Values:**As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to Excellent science, Inclusion, trust & respect, Health, safety & environment and Deliver on commitments.  In your application and at interview you will need to demonstrate alignment with these behaviours.In Data61, our leaders will be expected to demonstrate the following 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.***Other 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.*  |

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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 your cover letter and resume/CV as one document. Please provide sufficient relevant information to enable the selection panel to assess your suitability. Should your application proceeds to the next step, you may be asked to provide additional information.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**Referees**: If you do not already have the names and contact details of two previous supervisors or academic/ professional referees included in your resume/CV please add these before uploading your CV.**Contact:** If after reading the selection documentation you require further information please contact:Dr Stephen Hardyvia email: stephen.hardy@data61.csiro.au or phone: +61 2 9490 5532Dr Richard Nockvia email: richard.nock@data61.csiro.au or phone: +61 2 9490 5639Please do not email your application directly to Dr Hardy or Dr Nock. 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). **We work flexibly at CSIRO, offering a range of options for how, when and where you work.** **Find out more here!:** <https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance>**CSIRO Data61** In today’s data-focused world, there’s no doubt that numbers count. [**Data61**](http://www.data61.csiro.au/) 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.Find out more – visit our [website](http://www.data61.csiro.au)  |