# Senior Research Scientist/Engineer – CSOF6

Role summary for potential applicants

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| Advertised Job Title**:** | Senior Research Scientist - Data Analytics |
| Reference Number**:** | 46943 |
| Classification**:** | CSOF6 |
| Salary Range: | AU $109,474 to AU $128,282 plus up to 15.4% superannuation |
| Location**:** | Eveleigh, NSW |
| Tenure: | Specified term of 3 years |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | * All Candidates |
| Functional Area**:** | Research Scientist / Engineer |
| % Client Focus - Internal: | 60% |
| % Client Focus - External: | 40% |
| **Reports to the:** | Principal Research Scientist |
| Number of Direct Reports: | 1 |

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| **Role Overview:** |
| At Data61 we bring together exceptional people from research and industry to create the largest data innovation group in Australia. Dat61’s Analytics research group keeps delivering innovative data analytical solutions for industry. Especially, machine learning and data analytics techniques become more and more popular in research and application fields related to infrastructure and asset management in recent years.  Successful candidates will have a great opportunity to work with an award-winning team, and your career development will benefit from interactions with Dat61’s world-class researchers. The selected candidate will be expected to perform various data analytics related to infrastructure and asset management.  The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to 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 build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts. You may be involved in leading research projects or undertaking work that has impact on the development of scientific or technical knowledge. |

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| **Duties and Key Result Areas:** |
| * Develop algorithm, interface, and system for intelligent infrastructure/asset management. * Research on data analytics and related topics for infrastructure and asset management. * Conduct data pre-processing, analysis, and other necessary tasks related to the research problem. * Incorporate novel approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing and further research. * Produce high quality scientific papers suitable for publication in quality journals and for presentation at national and international conferences * 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 as part of a multi-disciplinary, often regionally dispersed research team, to carry out tasks under limited direction in support of scientific research. * Work collaboratively and honestly with internal and external colleagues, clients and partners to develop and progress challenging but realistic research plans for a range of research projects. * Lead small research projects and assist with elements of larger projects including the negotiation of resource requirements. * Lead, coach and supervise staff to ensure experiments are established in accordance with research design, within agreed timelines and budget. * 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-Requisites:***   * **Education/Qualifications:** A doctorate and or equivalent research experience in a relevant discipline area, such as Machine learning and Data Mining. * **Communication:** Excellent written and oral communication skills, evidenced by high-level reporting, presentation and negotiation abilities, and the capacity to identify and influence critical stakeholders to gain support for contentious proposals/ideas.   ***Essential Criteria:***   1. Experience in conducting research projects either within universities or within an industry based research lab. 2. Excellent research record evidenced by quality publications in high impact Machine Learning, AI, Data Mining conferences and journals. 3. Proven track-record of contributions towards industrial innovation. 4. Experience in (co-)supervising PhD students or research staff in research projects and high-quality publications. 5. Good programming skills using Python, Matlab, or similar program. 6. A significant record of science innovation and creativity plus the ability to apply well developed research skills to scientific investigations.   **Desirable Criteria:**   1. Experience with one or more of the following (show evidence with publications):    * Bayesian nonparametric methods    * Nonhomogeneous stochastic processes    * Large scale data mining/processing/inference 2. Experience with dynamic processes/networks, or spatial-temporal data.   **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 (i.e. IELTS test).- <http://www.ielts.org/default.aspx>  ***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.  ***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. |

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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 may be asked to provide additional information (online) relevant to the selection criteria. If so, then responding will enhance your application so please take the time to provide relevant succinct answers. Applicants who do not provide the information when requested may not be considered.  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](mailto: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 Zhidong LIvia email: [Zhidong.Li@data61.csiro.au](mailto:Zhidong.Li@data61.csiro.au) or phone: +61 2 9490 5853  Please do not email your application directly to Dr Li. 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 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. |