# POSITION DESCRIPTION backgroundData 61 and CSIRO logoResearch Scientist/Engineer – CSOF5

Role summary for potential applicants

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| Advertised Job Title**:** | Software Engineer – Data Visualisation |
| Reference Number**:** | 51367 |
| Classification**:** | CSOF5 |
| Salary Range: | AU $95,369 to AU $103,205 plus up to 15.4% superannuation |
| Location**:** | Eveleigh, Sydney NSW or Canberra ACT |
| 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 | 0% |
| % Client Focus - External | 100% |
| Reports to the: | Team Leader – Data Science Platforms |
| Number of Direct Reports | 0 |

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| **Role Overview:** |
| The role of Software Engineer in Data61 CSIRO involves helping to develop innovative solutions to real world problems.  As a Software Engineer in the Data Science Platforms Team, you can contribute to building new technologies for graph analytics and data visualisation with real impact for Australia. We are looking to collaborate with talented, creative people who love to write elegant, usable software at scale.  In this role you will be the primary developer on an open source graph visualisation platform written in Java. You will have the freedom to extend this software into new areas by developing novel network visualisation algorithms, and experimenting with GPUs, distributed computing and machine learning.  In this role you are also encouraged to experiment with new technologies, learning new techniques and skills, and apply them to your work. |

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| **Duties and Key Result Areas:** |
| * Building software systems and algorithms for network data visualisation in Java. * Contributing to an open source software project with real impact. * Collaborating with UX and UI teams on visualisation techniques. * Collaborating with visualisation research and engineering teams with GPU technologies * Building elegant, efficient and readable code. * Collaborating effectively with research, engineering and business teams across Data61 to ensure that project goals and Data61’s goals are achieved. * 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. |

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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed*  ***Pre-Requisites:***   1. **Education/Qualifications:** Degree in an engineering discipline such as Computer Science or equivalent commercial experience in software engineering*.* 2. **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. 3. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment. 4. **Adaptability:** The ability to effectively manage priorities, and carry out non-routine tasks independently. 5. **Problem Solving:** Proven ability to investigate underlying issues of complex and ill-defined problems and develop appropriate responses by adapting/creating and testing alternative solutions**.**   ***Essential Criteria:***   1. Experience developing software in Java 2. Knowledge of data structures and algorithms 3. Experience with one or more of the following programming languages: Python, Ruby, Scala, Haskell, Rust, Go, Clojure, C, C++, JavaScript. 4. Ability to think creatively, to work collaboratively and to perform tasks under minimal supervision. 5. The ability to collaborate and grow with a multi-disciplinary, regionally dispersed research and engineering team.   **Desirable Criteria:**   1. Passionate about open source software and open source communities 2. Interest in GPU technologies 3. Interest in data visualisation techniques and algorithms 4. Interest in large-scale data analytics and machine learning 5. Interest in functional programming languages e.g. Haskell, Scala, Clojure, OCaml   **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.**  In Data61, our leaders will be expected to demonstrate the following values:   1. **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. 2. **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. 3. **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. 4. **Ownership of Results:** We jointly hold ourselves accountable for our actions. We do this via trust and commitment. 5. **People and their Differences**: We embrace the creativity that comes from the diversity of our people. 6. **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. 7. **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 [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](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 Alex Collins via email [Alex.Collins@data61.csiro.au](mailto:Alex.Collins@data61.csiro.au) or phone 02 9490 5963 or  Dr Stephen Hardy via email: [Stephen.Hardy@data61.csiro.au](mailto:Stephen.Hardy@data61.csiro.au) or phone: 02 9490 5532.  Please do not email your application directly to Dr Collins or Dr Hardy. 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).  **Data61** is Australia’s digital powerhouse, formed by the recent integration of NICTA and CSIRO’s Digital Productivity business unit. We bring a multidisciplinary approach with design thinking, creativity, and behavioural economics to solve complex business problems, digital transformation and early stage commercialisation of data-centric solutions.  Data61 is a CSIRO entity, Australia’s preeminent scientific organisation. Being part of CSIRO gives us access to deep domain expertise across all of the industry sectors most likely to be disrupted over next 5-20 years.  Data61 focuses on every aspect of data research and development, from data capture [via sensor technology and robotics] to data consumption; communications and networking; infrastructure; hardware and software; cybersecurity; data statistics, modelling and analytics; decision sciences; behavioural economics and cognitive sciences—across every major industry sector.  Find out more – visit our [website](http://www.data61.csiro.au) |