# Research Projects – CSOF5

Role summary for potential applicants

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| **Advertised Job Title:** | Senior Software Engineer (Full Stack) |
| **Reference Number:** | 46524 |
| **Classification:** | CSOF5 |
| **Salary Range:** | AU $95,369k to AU $103,205k plus up to 15.4% superannuation |
| **Location:** | Eveleigh, Sydney NSW (preferably) or Canberra, ACT |
| **Tenure:** | Indefinite |
| **Relocation assistance:** | Will be provided to the successful candidate if required. |
| **Applications are open to:** | All Candidates |
| **Functional Area:** | Research Projects |
| **Number of Direct Reports:** | 0 |
| **Reports to the:** | Team Leader – Web Geospatial Visualisation |

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| **Role Overview:** |
| Help us build exciting open source products! We are the team behind TerriaJS, the library that powers Australia’s NationalMap, the Australian Renewable Energy Mapping Infrastructure (AREMI), and many more. We use cutting-edge technologies to build sophisticated, elegant, and user-focused web-based applications, and we make nearly all of the code we write open source.  Building on our success with TerriaJS, we are currently designing and building a new open data platform that will have real impact for the Australian government and for others around the world.  With two ambitious open source projects underway, we have an immediate need to grow the team. We are seeking a creative and adaptable full-stack software engineer to join the team, to build elegant solutions to unsolved problems, to take ownership of their area, and to learn and grow to their full potential. We work in an open, collaborative environment with flexible working hours and a culture of trust and individual empowerment. |

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| **Duties and Key Result Areas:** |
| * Design and build front end and back end systems and to ensure their implementation is efficient, elegant and maintainable. * Always consider the goals and comfort of users, including the software developer users of APIs. * Work with customers to understand their needs and make sure they are met. * Experiment with technologies, evaluate them and present the results. * Help build our open source community by answering questions, writing documentation, and presenting at conferences. * Collaborate effectively with engineering, research, UI/UX and business teams. * Provide technical direction, take ownership of projects, present ideas and foster creativity in others. * Maintain high ethical and performance standards. * 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:***   1. **Education/Qualifications:** Bachelor degree in a scientific or 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 a number of competing priorities simultaneously, 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. Ability to think creatively, prototype new ideas, and see them through to production. 2. Comfortable working with HTML, CSS and SVG. 3. Expertise with JavaScript; ES2015+ or TypeScript a plus. 4. Experience with Scala or Node.js on the backend. 5. Experience with one or more front-end frameworks: React, Redux, Angular, Knockout, D3, etc. 6. Knowledge of algorithms and data structures. 7. Ability to take ownership of their project, provide technical direction, and present their ideas and foster creativity in others. 8. The ability to collaborate and grow with a multidisciplinary, regionally dispersed software engineering team.   ***Desirable Criteria:***   1. Experience with mapping and GIS tools and techniques. 2. Familiarity with open data communities. 3. Familiarity with open data communities 4. Experience with graphics programming e.g. WebGL, GLSL, GPU programming, OpenGL. 5. Experience with databases, e.g. ElasticSearch, PostgreSQL. 6. Experience with Functional programming, Haskell, OCaml, Clojure, PureScript, Elm. 7. Experience building large-scale, production web applications. 8. Experience with containers and microservices, e.g. Docker, Kubernetes. 9. Experience mentoring junior engineers. 10. Computer Science degree or related.   **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:   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. |

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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:  Kevin Ring via email: [Kevin.Ring@data61.csiro.au](mailto:Kevin.Ring@data61.csiro.au). Please do not email your application directly to Kevin Ring. 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>  **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, modeling 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) |