# Research Projects – CSOF5

Role summary for potential applicants

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| Advertised Job Title**:** | Functional Programming Engineer |
| Reference Number**:** | 31922 |
| Classification**:** | CSOF5 |
| Salary Range: | AU $92K to AU $100K plus up to 15.4% superannuation |
| Location**:** | Brisbane, QLD |
| Tenure: | Specified term of up to 3 years |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian Citizens Only  Australian & NZ Citizens, Permanent or Temporary Residents Only   * All Candidates |
| Functional Area**:** | Research Projects |

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| **Role Overview:** |
| The role of Research Projects staff in CSIRO is to collaborate in scientific activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental and observational work, and in carrying out the more practical aspects of the work. At senior levels, Research Projects staff may be involved in providing consulting services, science management and/or industry liaison.  This role sits within the Functional Programming team in Data61’s Engineering & Design Group. As an integral part of the team the incumbent of this position will apply their strong functional programming skills to contribute to the development of open-source software and systems targeting industry applications which are globally competitive.  The Functional Programming Engineer will work with a high level of independence to design, develop and adapt functional programming techniques. They will participate in project scoping and planning, and make significant contributions to the research direction. They will set up and maintain efficient work teams, manage performance and resources; and provide leadership and development to less experienced staff to ensure research outcomes are achieved. |

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| **Duties and Key Result Areas:** |
| * Develop software and systems building on Data61's research as part of Data61's business-focussed project teams as allocated. * Perform evaluation and comparisons of the developed software in terms of functionality, performance and robustness as necessary to demonstrate the competitiveness of the software. * Publish and communicate results to the immediate team, researchers and other stakeholders. * Write documentation for the software and systems. * Work collaboratively with project team members including project leaders, engineers and researchers. * Make use of Functional Programming tools and processes for efficiency and for ensuring software quality. * Contribute to open source development, patent searching and/or patent creation activities as appropriate. * Contribute to Data61's engineering discipline by participating in discussions of software development tools, processes and culture. * Work as part of a multi-disciplinary, often regionally dispersed research team, to carry out tasks autonomously in support of scientific research. * Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives. * Set-up and/or maintain effective and efficient work teams, allocate and manage resources and undertake staff performance management and career development. * Choose appropriate management strategies and communication styles to maintain high levels of motivation and productivity, give feedback for development purposes and provide support and direction for improvement, as required. * Adapt and/or develop original experimental methods/equipment/ software/concepts/ideas in support of existing and further research. * Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation. * Adhere to the spirit and practice of CSIRO’s and Data61 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** A Bachelors/Masters Degree in a relevant discipline, such as computer science or engineering and/or equivalent experience. 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. Strong demonstrable skills in functional programming techniques. 2. An ability to demonstrate functional programming principles using Haskell. 3. Demonstrated ability to work with a high degree of independence, plan and set work for self and others and recognise where endeavours will make the most impact. 4. Demonstrated experience with revision control systems such as git or mercurial. 5. A thorough understanding and commitment to principles of open-source software. 6. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks autonomously in support of scientific research. 7. Demonstrated ability & willingness to contribute novel ideas and approaches in support of scientific investigations.   **Desirable Criteria:**   1. Experience with mainstream programming in an industry setting, and a familiarity with the specific problems that are regularly encountered in that context. 2. Demonstrated experience managing resources and providing leadership and/or mentoring less experienced staff.   ***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:***  In Data61, our leaders will be expected to demonstrate the following values:   * Hierarchy: Country, Company, Team, Individual * Openness: Open debate, collaboration, full commitment * Learning: Calculated risks, institutionalise learning, fast cadence * Impact: Tackle hard problems, create the future, focus on outcomes * Stewardship: Lead, make each function and co. stronger over time   **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> |

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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:  Martin Cvizekvia email: [Martin.Cvizek@csiro.au](mailto:Martin.Cvizek@csiro.au) or phone: 0428 125 842.  Please do not email your application directly to Martin Cvizek. 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. |