# Position Description

# Research Projects – CSOF5

The following information is for applicants

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| Advertised job title**:** | Software Engineer |
| Job reference: | 60818 |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Reports to the: | Team Leader – Graph Platform Team |
| Number of direct reports: | 0 |
| How to apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon |
| Contact details to discuss this position: | Tim Pitman, email: [Tim.Pitman@data61.csiro.au](mailto:Tim.Pitman@data61.csiro.au)  *Please do not email your application directly to Tim Pitman. Applications received via this method will not be considered.* |
| If you have difficulty applying please contact: | Call 1300 984 220 or email [csiro.online@csiro.au](mailto:careers.online@csiro.au) between 8.30 am and 5 pm Australian east coast time. |

## 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.

The Software Engineer will develop new technologies for data integration and graph analytics with real impact for Australia. The Engineer will be creative and be able to design and build large scale machine learning systems and write elegant, usable software at scale.

## Duties and Key Result Areas:

* Designing and developing software for data integration and machine learning on large scale graphs.
* Experimenting with new technologies and communicating the results.
* Building elegant, efficient and readable code with Scala and Apache Spark.
* Creating distributed systems for data science at scale.
* Collaborating effectively with research, engineering and business teams across Data61 to ensure that project goals and Data61’s goals are achieved.
* Providing technical direction, taking ownership of projects, presenting ideas and fostering creativity in others.
* Maintaining high ethical and performance standards.
* Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* 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.
* 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.

## CSIRO Competencies:

1. **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.
2. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.
3. **Adaptability:** The ability to effectively manage a number of competing priorities simultaneously, and carry out non-routine tasks independently.
4. **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**.**

## Selection Criteria:

*Under CSIRO policy only those who meet all selection criteria can be appointed.*

* A relevant tertiary qualification in a scientific or engineering discipline such as Computer Science and/or equivalent commercial experience in software engineering.
* Demonstrated ability to solve problems and implement engineering solutions.
* Experience writing software in Scala.
* Experience developing distributed applications with Apache Spark or Flink.
* Experience developing machine learning solutions for analytics problems.
* Demonstrated ability to think creatively, to work collaboratively and to perform tasks under minimal supervision.
* Demonstrated ability to take ownership of projects, provide technical direction, present their ideas and foster creativity in others.
* Demonstrated ability to collaborate and grow with a multi-disciplinary, regionally dispersed research and engineering team.

## Desirable Criteria:

* Experience with data storage systems and distributed databases.
* Experience with graphs and network technologies.
* Interest in functional programming languages e.g. Haskell, Scala, Clojure, OCaml.
* Experience organising or presenting at community engagements.
* Experience mentoring junior engineers.

## Special Requirements:

Appointment to this role may be subject to conditions including security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- <https://ielts.com.au/>

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.

## About Data61:

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)