# Position Details

## Research Projects – CSOF5

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| The following information is for applicants |
| Advertised Job Title | Senior Software Engineer |
| Job Reference | 90036 |
| Tenure | Specified Term of 3 years Full-time |
| Salary Range | AU$104,778 – AU$113,388 per annum plus up to 15.4% superannuation  |
| Location(s) | Kensington, WA (preferred)Clayton, VIC; Black Mountain, ACT; Pullenvale, QLD (may be considered, in that order of preference) |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Research Team Leader, Informatics Platforms |
| Client Focus – Internal | 30% |
| Client Focus – External | 70% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Pavel Golodoniuc via email at pavel.golodoniuc@csiro.au or phone +61 8 6436 8776Please do not email your application directly to Dr Golodoniuc. Applications received via this method will not be considered. |
| How to apply | Apply online at <https://jobs.csiro.au/> Internal applicants please apply via **Jobs Central**If you experience difficulties when applying, please email careers.online@csiro.au or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

The role of Research Projects staff in CSIRO is to collaborate in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work. Research Projects staff may be involved in providing services, research science collaboration or management and/or industry liaison.

The Senior Software Engineer will be part of the ‘Discovery Program’ and support its increasing participation in data analytics in the resources sector. The Program develops software technologies to aid in characterising mineral resources and minerals exploration. The Program has a need for software engineers that can support this work by working with geoscientists and data scientists to design and maintaining operational IT systems in conventional, HPC and Cloud environments across the work portfolio and ensure quality for internal operations and support customer demand.

The Senior Software Engineer will be working in multi-disciplinary teams and will play a role in the design and development of IT systems to support analytical algorithms and their integration with scientific workflows. They will be involved in innovative projects and gain exposure to cutting-edge technology and assist in taking a concept through to operational system with a key focus on systems quality for industry use. In addition, they may be required to work in collaboration with our industry partners to socialise CSIRO technologies or help implement them into their workflows. They will be required to present their work through provision of both in-house and external workshops, presentations at conferences and contribution to journal articles and reports in order to communicate findings to the minerals community, particularly within Australia. This may also involve networking at industry-focussed events and conferences.

### Duties and Key Result Areas

* Provide a key collaboration role between geoscientists, data scientists and software engineers and create robust operational systems from research outcomes.
* Effectively derive and communicate technical requirements with an emphasis on systems architecture and implementation.
* Design, develop and adapt experimental methods and systems, software and/or user experience, requiring high levels of initiative, ingenuity and skills (some of which are outside a single discipline).
* Develop novel techniques to produce enhanced results, providing researchers with new or improved approaches to research or technological problems.
* Contribute to adopting the "Cloud First, Cloud Right" strategy.
* Routinely maintain the high quality of the developed software using continuous integration, testing and deployment tools.
* Document software and algorithms and provide user training through regular meetings and workshops.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Communicate openly, 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 autonomously in support of scientific research.
* Participate in project scoping and planning, making significant contributions to the research or technological direction, and may advise on the level and type of services that are provided.
* Work collaboratively with colleagues within your team, the business unit and across CSIRO to reach objectives.
* 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.

## **Selection Criteria**

#### Essential

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

1. A relevant Bachelor’s (Hons) Degree in Computer Science, Software Engineering or related discipline.
2. Significant demonstrated industry experience in software engineering.
3. Knowledge of modern programming languages, libraries, and frameworks, such as Python, TypeScript, Angular, Node.js, GCP/AWS/Azure, Java, PostgreSQL, Docker, Terraform, Git, and Postman. (If you are experienced in other languages and frameworks, we still encourage you to apply, and we will train you in our technologies. Please provide a link to your open repositories if possible).
4. Demonstrated Cloud technology experience – e.g., AWS, GCP, Azure, OpenStack, load balancing, security, etc.
5. Evidence of conceptual thinking in domain models, UI components, and contribution to designing and implementing elegant but comprehensive API.
6. Experience with software industry development practices, including planning, continuous integration, continuous deployment, and testing.

## **Desirable**

1. Experience in scientific software and algorithms development, and ability and willingness to contribute novel ideas and approaches in support of scientific investigations.
2. Experience in converting experimental/prototype software into operational systems for use by external clients.
3. Experience in user experience (UX) design and engineering, business analysis, and the ability to convert user requirements into robust user stories.
4. Experience in web front-end development and testing frameworks.
5. An interest in data visualisation and machine learning.

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other team as well as industry colleagues.
* **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others’ reactions.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:**Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* If the successful candidate is not an Australian Citizen or Permanent Resident, they 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/>)

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CSIRO is a values-based organisation. In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted

Find out more about CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF)