# Position Details

## Research Projects- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Senior Software Engineer |
| Job Reference | 71719 |
| Tenure | Specified Term of 2 years |
| Salary Range | AU$98,735 to AU$106,848 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Kensington, WA |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents Only * Australian temporary residents who currently residing in Australia with full work rights for the duration of the term |
| Position reports to the | Research Team Leader, Dr Aaron Davis |
| Client Focus – Internal | 30% |
| Client Focus – External | 70% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Aaron Davis via email: Aaron.Davis@csiro.au  *Please do not email your application directly to Dr Aaron Davis. 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](mailto:careers.online@csiro.au) or call 1300 984 220. |

### 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. Research Projects staff may be involved in providing services, research science collaboration or management and/or industry liaison.

CSIRO is seeking a Senior Software Engineer to support its increasing participation in data analytics in the resources sector. The Program develops software technology to aid in detecting and exploring for subsurface resources such as minerals and groundwater. One key platform of our software portfolio is the Geophysical Processing Toolkit (GPT), which aims to support earth scientists in processing, analysing, and modelling geophysical data for exploration and characterisation. As Software Engineer, you will support CSIRO by designing and maintaining the GPT for conventional, HPC, and Cloud-based environments. The GPT will become part of the CSIRO software database, which will allow the earth science community access to processes and algorithms designed by CSIRO scientists.

The successful candidate will be working in a multi-disciplinary team of geoscientists and software engineers. You will be responsible for the design and development of IT systems that support analytical and modelling algorithms, and you will integrate these systems into scientific workflows that meet or exceed current industry standards. You will be involved in innovative projects, gain exposure to cutting-edge technology, and take concepts through to an operational software system that focusses on industry.

### Duties and Key Result Areas:

* Develop a software platform that the geoscience community will use.
* Play a key collaboration role between geoscientists, data scientists, and software engineers to create robustly operational software systems from research ideas.
* Convert research ideas and scientific requirements into a technical development plan.
* Actively contribute towards strategic development.
* Maintain the high quality of developed software using continuous integration, testing and deployments tools.
* Document software and algorithms and provide user training through meetings and workshops.
* Communicate 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.
* Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives.
* 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.
* 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.

## **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 teams 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 other 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:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **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.

## **Selection Criteria**

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

**Essential Criteria:**

* A relevant Bachelors (Hons) Degree or at least 5 years of working experience in computer science, software engineering, or related discipline
* Evidence of conceptual thinking in domain models and UI components
* Evidence of contribution to the design and implementation of elegant, comprehensive API.
* Excellent skills in converting research software systems into operational systems for use by external clients
* Experience using one or more of the following languages/frameworks: Angular, TypeScript, NodeJS, Bootstrap, Python, Matlab, FORTRAN, C++, GCP/AWS/Azure, Docker, Terraform. If you are experienced in other languages/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
* Understanding of UX design principles and attention to detail in building user-focused web applications, interactive visualisations, and workflows
* 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
* Experience with software industry development practices, including planning, continuous integration, continuous testing, and deployment

**Desirable Criteria:**

* Experience in web front-end development and testing frameworks
* Demonstrated Cloud technology experience – AWS, GCP, Azure, OpenStack, load balancing, security, etc
* Experience with HDF5
* Experience with software industry development practices, including planning, continuous integration, continuous testing, and deployment
* An awareness of the geophysical software market and the concepts of forward and inverse modelling

## **Special Requirement:**

The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits

## **About CSIRO:**

We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!