# Position Details

## Research Projects – CSOF3 and CSOF4

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| The following information is for applicants |
| Advertised Job Title | Software Development Engineer, Resource Logistics Team |
| Job Reference | 79180 |
| Tenure | Specified Term of 3 yearsFull-time |
| Salary Range | **Level 3:** AU$66,163 to AU$84,207 pa + up to 15.4% superannuation**Level 4:** AU$87,068 to AU$98,504 pa + up to 15.4% superannuationApplications are invited across two capability levels and the successful candidate will be appointed at the level commensurate with their skills and experience. |
| Location(s) | Brisbane (Pullenvale), QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens currently residing in Australia
* Australian Permanent Residents currently residing in Australia
* Australian Temporary Residents currently residing in Australian who have unrestricted work rights for the duration of the term (until approx. 2025) and no requirement for visa sponsorship.
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| Position reports to the | Team Leader, Resource Logistics |
| Client Focus – Internal | 30% |
| Client Focus – External | 70% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Chad Hargrave via email at chad.hargrave@csiro.au  |
| 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. |

### 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.

As a key member of the Resource Logistics Team, the Software Development Engineer will contribute essential software engineering, system commissioning and customer support capabilities to the team. The role will provide critical software development and support for the team’s diverse research portfolio, which includes petrographic analysis, supply chain monitoring and control, and various sensor technologies for characterisation and automation applications in the resources sector.

A vital aspect of this role is the provision of reliable software support to existing commercial clients of our Component Grain Analysis (CGA) technology. The software platform for CGA incorporates advanced image analysis techniques (including machine learning algorithms) to assist the user to automatically segment and characterise various components of material samples that have been imaged using optical or SEM microscopy systems. The role will also involve undertaking key improvements and extensions to the software platform that will expand its capabilities into new application domains and deployment platforms.

Other aspects of the role will include the development of new and/or maintenance of existing software interfaces for instrumentation and sensors used to support the broader group’s automation and field characterisation work. There may also be opportunities to engage in research innovation and undertake project leadership as the role develops.

### Duties and Key Result Areas

* Provide software design, implementation and support for existing and new project applications and products developed by the research group, specifically:
	+ Component Grain Analysis software
	+ Other image, signal, and spectral analysis processing software
	+ Sensor drivers and interfaces: development, enhancement, and maintenance
	+ User interfaces: design, development, and maintenance.
* Maintain software version control (Git/Bitbucket) for current and legacy software applications.
* Provide technical support to clients for our commercialised software systems, including the management of a secure licence-control system.
* 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 collaboratively as part of a multi-disciplinary research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

***At the higher CSOF4 level, additional duties will also include:***

* Play a lead technical role, providing high level software engineering capability for new and existing project applications across the research group.
* Lead a small team and/or collaborate with staff from other teams in meeting their strategic objectives as required.
* Initiate and maintain collaborative relationships with internal and external stakeholders and project teams.
* Adapt and/or develop original experimental methods/equipment/software/concepts/ ideas in support of existing and further research, promptly addressing where methods may not be defined, and initiative is required in seeking new approaches to meet experimental and/or technological needs.
* Make significant contributions to the interpretation and communication of research or technological results and may collaborate on drafting presentations to, and/or detailed written reports for, clients and the scientific and/or technology community.
* Under general direction participate in planning projects and accept responsibility for the scheduling and completion of major parts of projects, including allocating and directing tasks where appropriate.

## **Selection Criteria**

#### Essential

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

1. Relevant diploma/bachelor’s degree or equivalent relevant work experience in Software, Electrical or Mechatronics Engineering.
2. Demonstrated proficiency in application development and support for C# or equivalent object-oriented high-level language.
3. Experience playing a key role in designing and developing significant software projects and systems.
4. The ability to work effectively as part of a multi-disciplinary research team and carry out tasks under general direction from Scientific Researchers.
5. The ability & willingness to contribute novel ideas and approaches in support of scientific investigations.

#### *For appointment at the higher level (CSOF4), the additional essential criteria will also include:*

1. Extensive practical experience in designing and developing significant software projects and managing the software system life cycle.
2. Experience with leading a software development project (or significant element within a larger project) from concept to development to delivery.
3. Experience of direct client interaction in the delivery and/or support of a developed software system.

## **Desirable**

1. Familiarity with, and experience in, the development of machine learning algorithms, in particular with regard to image processing applications.
2. Experience with developing software interfaces, including GUIs, for industrial instrumentation and sensors.
3. Experience with providing client support for complex software systems.
4. Experience with development of software automation components for industrial or robotic control systems.
5. Current driver’s licence.

## **Required Competencies**

**CSOF3 Level**

* **Teamwork and Collaboration:** Proactively seeks and considers the ideas and opinions of others from within and outside the team to help form decisions, plans or actions.
* **Influence and Communication:** Puts forward ideas by presenting factual information supported by data, definitions, examples, illustrations or other aids, which will assist in conveying meaning.
* **Resource Management/Leadership:** Provides instruction and assists other staff to complete allocated tasks and activities.
* **Judgement and Problem Solving:** Identifies and considers the implications of a range of available alternatives in order to select the most appropriate response to problems of a familiar or recurring nature.
* **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **Adaptability:**Willingness to change ideas or perceptions based on new information, contrary evidence or other people's points of view. Prepared to try out different approaches.

**CSOF4 Level**

* **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 others reactions.
* **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **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.

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 Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

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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:

* 1. People First
	2. Further Together
	3. Making it Real
	4. Trusted

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