# Position Details

## Technical Services- CSOF4

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| The following information is for applicants |
| Advertised Job Title | Software Engineer, C++ application development |
| Job Reference | 69341 |
| Tenure | Specified Term until 20th December 2021 |
| Salary Range | AU$83,687 to AU$94,679 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Melbourne, Vic |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian Citizens Only
* Australian/New Zealand Citizens and Australian Permanent Residents Only
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| Position reports to the | Computational Software Engineering and Visualisation Team Leader |
| Client Focus – Internal | 0% |
| Client Focus – External | 100% |
| Number of Direct Reports | 0 |
| Enquire about this job | Damien Watkins via email: Damien.Watkins@csiro.au*Please do not email your application directly to Damien Watkins. 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. |

### Role Overview

The role of Technical Staff in CSIRO is to provide support for scientific research in a diverse range of laboratory and field situations across a range of different research projects. This support consists of the application of accepted technical practices and the development of new practices. The work is usually carried out as a member of a centralised service.

The Software Engineer will be part of a multi-disciplinary team of software engineers and scientists producing advanced scientific software for real-world applications in areas such as computer vision, advanced manufacturing and Industry 4.0. To support the development of such applications, the CSEV Team develops world leading scientific and application development frameworks for use both inside and outside CSIRO. One such framework is Workspace; a cross-platform C++ framework designed to enhance productivity, enable collaboration and software reuse in order to streamline the distribution and commercialisation of scientific research and software products. Our software frameworks have an object-oriented architecture and use advanced C++ facilities such as templates.

The Software Engineer will be responsible for developing commercial-quality applications using our frameworks in support of CSIRO and other Research & Development organisations. The Engineer will work on projects under the direction of senior staff and be mentored by senior members of the CSEV team. They will have a professional and proactive view of their software engineering career and as such will be looking to further their experience and skills by strongly engaging in a professional software team.

### Data61 and CSIRO recognise the challenges of starting a new role during the COVID-19 pandemic, and is prepared to be flexible on conditions relating to on-site work, face-to-face meetings and working hours.

### Duties and Key Result Areas:

* Development of commercial-quality software using modern C++ and building upon our software frameworks for deployment both inside and outside of CSIRO.
* Contribute to the codebase on a daily basis.
* Compile, execute, profile and debug code on multiple platforms (including Windows, Linux and Mac), and use software engineering best-practices, such as version control, continuous integration, automated test suites and work item tracking software during daily activities.
* Active involvement (as required) in all aspects of the software development lifecycle under the direction of senior member of the CSEV team.
* Be involved in requirements gathering, design, development, testing and delivery of applications, components and tools.
* Ongoing support of these applications, components and tools.
* Active involvement (as required) in all aspects of project management, including interacting with end-users and customers both inside and outside of CSIRO in order to elicit and refine software requirements and project objectives, demonstrate new features, and provide end-user training and support.
* Work in multi-disciplinary, geo-distributed teams to carry out tasks autonomously to meet Project deliverables.
* Liaise with clients to determine their needs and take personal responsibility for their satisfaction, correct problems promptly and in a constructive manner.
* Under general direction, manage a facility or service supporting a large number of users, undertake a wide variety of tasks or tasks that have a high degree of technical difficulty, documenting procedures and training clients in systems and processes.
* Participate in the planning of projects and accept responsibility for carrying out major parts of the project, including data analysis, and typically make significant contributions to the interpretation and communication of results.
* Be able to proactively negotiate with external bodies.
* Utilise management expertise including the ability to plan, organise and monitor the allocation of resources across a facility.
* Develop original techniques, processes, equipment or software, especially when encountering new problems where methods are not defined and initiative is required in seeking new approaches to improve the service provided and meet client needs.
* 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, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal 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 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.

## **Selection Criteria**

#### Essential

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

1. A tertiary degree in software engineering, computer science or similar and/or equivalent commercial experience.
2. Commercial software engineering experience writing C++ software applications, with a strong customer focus and a proven capacity to deliver. An understanding of object-oriented programming, object-oriented class libraries and C++ templates is essential.
3. Demonstrated experience working in a test-driven, agile development or continuous integration environment.
4. Experience with the following types of software engineering processes and tools: source code repositories (e.g. Git/SVN/TFS), work item tracking (e.g. JIRA/TFS), GUI libraries (such as Qt), cross platform development tools and environments (such as CMake).
5. The ability to work proactively and effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks autonomously to meet Project deliverables.
6. Demonstrated ability & willingness to contribute, and effectively communicate, novel ideas and approaches.

## **Desirable:**

1. Previous experience developing software applications for scientific domains, including experience with scientific workflow systems, such as [Workspace](https://research.csiro.au/workspace).
2. Development experience with one or more higher-level languages and frameworks such as Qt, Python, JavaScript, C#, CUDA or OpenCL.
3. Experience in computer vision and computational geometry development with C++ libraries such as OpenCV, PCL or OpenGL.

Special 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.

## **About CSIRO:**

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

Find out more about the CSIRO [Data61](https://data61.csiro.au/)