# Position Details

## Research Projects- CSOF5/6

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| The following information is for applicants | |
| Advertised Job Title | Senior Software Engineer |
| Job Reference | 66851 |
| Tenure | Specified Term of 18 months |
| Salary Range | \*CSOF5:AU$98,735 to AU$106,848 pa (pro-rata for part-time) + up to 15.4% superannuation  \*CSOF6: AU$113,338 to AU$132,811 pa (pro-rata for part-time) + up to 15.4% superannuation  \*NB: This position is offered across two levels, the appointment level will be determined by the qualifications, skills and relevant experience of the successful candidate |
| Location(s) | Clayton, Victoria |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Position reports to the | Computational Software Engineering and Visualisation Team Leader |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Damien Watkins via email: Damien.Watkins@csiro.au or phone: 03 9545 8096  *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](mailto:careers.online@csiro.au) or call 1300 984 220. |

### Role Overview

The motivated and skilled C++ Software Engineer will join the Computational Software Engineering and Visualisation Team (CSEV) within Data61 at CSIRO. The Software Engineer will be part of a multi-disciplinary team of software engineers and scientists producing advanced scientific software and end-user interfaces for real-world applications. 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, Workspace is a cross-platform framework designed to enhance productivity, enable collaboration and software reuse and to facilitate the distribution and commercialisation of software products. At senior levels such as this, Research Projects staff are involved in providing project leadership, science management, staff development and/or industry liaison.

The Senior Software Engineer will be responsible for developing commercial-quality applications using our frameworks in support of CSIRO and other Research & Development organisations. They will be adept in the use of state of the art software development processes and systems, and will have a professional and proactive view of their software engineering career. The Software Engineer will lead Projects and be a suitable mentor for junior members of the CSEV team.

### Duties and Key Result Areas:

* Development of commercial-quality software using C++.
* Building upon our software framework, for deployment both inside and outside of CSIRO.
* Contribute to the code base on a daily basis.
* Compile, execute, profile and debug code on multiple platforms (including Windows, Linux and Mac).
* 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. This will include requirements gathering and specification, design, development, testing and delivery of applications, components and tools. Ongoing support of these applications, components and tools will also be required.
* Active involvement (as required) in all aspects of Project management. This includes interacting with end-users and customers both inside and outside of CSIRO in order to elicit and refine software requirements and project objectives.
* Provide end-user support as required.
* As required and appropriate, contribute to the leadership of the team by setting-up and/or maintaining effective and efficient programs and work teams, allocating and managing resources, and undertaking some aspects of staff performance management and career development.
* Work in multi-disciplinary, geo-distributed teams to carry out tasks autonomously to meet Project deliverables.
* Work collaboratively with colleagues within your team, Data61 and across CSIRO to achieve objectives.
* 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’s 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.

**For an appointment at the higher salary level (CSOF6), duties will also include:**

* Experience managing a team delivering commercial quality software to external customers
* Demonstrated ability to lead and develop junior team members
* Superior communications and persuasion abilities when dealing with peers and customers

## **Required Competencies CSOF5/6:**

* **Teamwork and Collaboration CSOF5/6:** 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 CSOF5:** 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.
* **Influence and Communication CSOF6:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious, proposals / ideas.
* **Resource Management/LeadershipCSOF5/6:** 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 CSOF5:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
* **Judgement and Problem solving CSOF6:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence CSOF5:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **Independence CSOF6:**Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability CSOF5:**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.
* **Adaptability CSOF6:** Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

## **Selection Criteria**

#### Essential

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

* A tertiary qualification in software engineering, computer science or similar or equivalent commercial experience.
* 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..
* Demonstrated experience working in a test-driven, agile development or continuous integration environment.
* Experience with the following types of software engineering processes and tools: source code repositories (i.e. Git/SVN/TFS), work item tracking (i.e. JIRA/TFS), GUI libraries (such as Qt), cross platform development tools and environments (such as CMake).
* 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.
* Demonstrated ability & willingness to contribute novel ideas and approaches in support of process improvement.

**For an appointment at the higher (CSOF6) salary level, as well as satisfying the Essential Criteria listed above, you must also have:**

* Experience managing a team delivering commercial quality software to external customers.
* Demonstrated ability to lead and develop junior team members.
* Superior communications and persuasion abilities when dealing with peers and customers.

## **Desirable:**

* Previous experience developing software applications for scientific domains, including experience with scientific workflow platforms.
* Development experience with one or more higher-level languages and frameworks such as Python, JavaScript, C#, Qt or OpenCL.
* Project or program leadership experience or the ability to contribute to the leadership of such a team where appropriate.
* Experience in computer vision and computational geometry development with C++ libraries such as OpenCV, PCL, OpenGL etc would be desirable.

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.

## **About CSIRO:**

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

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/)