# Position Details

## Research Projects- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Earth Data Analytics Software Engineer |
| Job Reference | 96878 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$126,313 - AU$148,014 per annum  plus up to 15.4% superannuation |
| Location(s) | Canberra or Adelaide |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian Citizens Only |
| Position reports to the | Earth Analytics Science and Innovation Team Leader |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Robert Woodcock via email at Robert.Woodcock@csiro.au or phone +61 412 298 696 |
| 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. |

**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).

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

### Role Overview

CSIRO is seeking a Software Engineer with a high level of demonstrated expertise in Python data analytics, preferably in Cloud scalable environments.

CSIRO's space and astronomy (S&A) is home to the CSIRO Centre for Earth Observation research program developing new satellite, calibration and data analytics capabilities for use by CSIRO researchers and our clients. The Earth Analytics Science and Innovation (EASI) platform is one of our primary data analytics capabilities supporting 100s of scientists across CSIRO and around the world. It consists of a range of Cloud native technologies (Terraform, Kubernetes, Dask, AWS Cloud) combined with open-source data science libraries (Python, Open Data Cube, Torch, Dask) providing advanced continental scale distributed data analytics tools and techniques along with access to data from a wide range of satellite and other data sources.

The role will work collaboratively with other leading technical specialists in designing, implementing, and advancing scalability of the EO data pipelines and automation workflows which provide Analysis Ready Data to EASI users and in a range of collaborative large data analytics projects involving hyperspectral EO, LIDAR and machine learning. The successful candidate will work in an agile cross functional team and be required to work very closely with scientists, solutions architects, and security to contribute to and validate designs. The position will provide the opportunity for continual learning and to work with a highly skilled and diverse team. The role will play a key part in delivering the next generation of our Earth analytics capability to the business and our customers.

### Duties and Key Result Areas

* Technically contribute to the design and implementation of applications and highly scalable scientific algorithms in Earth analytics using Python.
* Develop scalable data processing pipelines and robust scientific workflows at continental scale in a Cloud native environment using Kubernetes and AWS.
* Coordinate and produce relevant systems documentation.
* Keep management and other team members informed of progress and issues via the Azure DevOps environment and other software engineering and communications tools (GIT, MS Teams).
* 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, regionally dispersed team to carry out tasks in support of AquaWatch partnership 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.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy and diversity initiatives.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. A tertiary qualification in computer science, software engineering or vendor certification in a relevant technical subject such as solution architect and software developer.
2. Strong programming skills in Python and related libraries with an emphasis on scalable parallel computing, geospatial data analysis, and scientific software libraries.
3. Strong experience in automation and implementing CI/CD (Continuous Integration and Deployment).

## **Desirable**

1. Knowledge and understanding of development of scalable Cloud solutions.
2. Implementing pipelines using Azure Devops and/or GitHub.
3. Knowledge and understanding of working with research and engineering to provide solutions and software development support.
4. Background, or working knowledge, in Earth analytics, LIDAR, Earth observation data, or machine learning.
5. Demonstrated experience with AWS Cloud and Kubernetes.
6. Demonstrated experience with Python scientific software libraries including Dask, SciPy, xarray, holoviz, Open Data Cube and Panel.
7. Code optimisation and parallel computing.

## **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:** 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/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:** 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:** 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:**Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. Please note that individuals 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. Visit [CSIRO Online](http://www.csiro.au/) and [Space and astronomy - CSIRO](https://www.csiro.au/en/research/technology-space/astronomy-space?start=0&count=12) for more information.

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