# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Data Engineer |
| Job Reference | 85621 |
| Tenure | Indefinite or Specified Term of two years  Full-time |
| Salary Range | AU$117,917 - AU$138,176 per annum plus up to 15.4% superannuation |
| Location(s) | Any major CSIRO sites in Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents |
| Position reports to the | Principal Engineer |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Dr Mahesh Prakash – email: [Mahesh.Prakash@datat61.csiro.au](mailto:Mahesh.Prakash@datat61.csiro.au) phone: 0436 661 302 |
| 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).

### Role Overview

CSIRO is spearheading a complex, multi-year portfolio of climate services research and development of tools which will help farmers, policy makers and other stakeholders to explore the possible impacts of climate change on farm businesses.

The role of the Data Engineer is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You will be working as part of a diverse team including scientists, engineers and user experience designers to transform complex information into beneficial and enduring outcomes.

### Duties and Key Result Areas

The Data Engineer delivery requirements include the following:

* Design, develop, deploy and maintain structured and unstructured data pipelines on internal and cloud infrastructure with a specific focus on climate, remotely sensed and geospatial data.
* Create and validate algorithms, including data cleaning, feature engineering, hyperparameter tuning, performance validation, scaling and monitoring.
* Contribute to CSIRO’s engineering discipline by promoting the effective use of software development tools, practices and culture.
* Review and guide software architecture and development.
* Communicate openly, effectively and respectfully within and across teams, and with key stakeholders, in the interests of good business practice, collaboration and reputation of both CSIRO and Data61.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed 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 Zero Harm goals.
* Other duties as directed.

## **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 engineering.
2. Deep expertise deploying and maintaining software on container and cloud infrastructure.
3. Demonstrated experience with contemporary software development tools and practises.
4. Sound interpersonal skills as evidenced by the ability to work effectively and collaboratively within and across teams.
5. Good judgement as applied to the identification and success resolution of complex (technical and non-technical) problems and issues.
6. A minimum of five years of data analytics experience.

**Desirable**

1. Varied programming language paradigms, including object oriented and functional.

2. Past experience in dealing with large, gridded climate data e.g., NetCDF , HDF5 files

3. Past experience in dealing with remotely sensed data

4. Cloud DevOps and container technologies.

5. Design and use of REST APIs.

6. Relational, NoSQL, time series and spatial databases.

7. Message queues (Kafka, Kinesis, MQTT, RabbitMQ).

8. Databases (SQL and NoSQL, time-series, administration, performance tuning, schema design and modelling, stored procedures, triggers, clustering, query design and evaluation).

9. Continuous integration/continuous deployment (Jenkins, Gitlab, Buildkite).

10. Agile project management.

## **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:** 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, goal and priorities.

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.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) 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