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# Position Details

## Research Projects- CSOF3

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| The following information is for applicants |
| Advertised Job Title | Embedded Software Engineer |
| Job Reference | 98576 |
| Tenure | Specified Term of 18 months Full-time |
| Salary Range | AU$70k - AU$90k per annum (pro-rata for part-time)plus up to 15.4% superannuation |
| Location(s) | Pullenvale, QLD |
| 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 | Research Group Leader |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | brano.kusy@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. |

**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

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.

Data61 CSIRO's Data61 is the data and digital specialist arm of Australia's national science agency. We are home to one of the largest collections of research and development expertise in Artificial Intelligence (AI) and data science in the world, and host cutting-edge facilities including the Mixed Reality Lab, Robotics Innovation Centre and AI4Cyber Enclave. Our research expertise includes AI, robotics, cybersecurity, modelling, and analytics.

As part of the Distributed Sensing Systems research group, you will develop and deploy low-power embedded sensing technology within natural and built environments and apply it to solve industry-driven challenges. Additionally, you will assist with validation and testing low-power IoT devices in real-world scenarios, commercialisation, and business development for the IoT sensing technology.

### Duties and Key Result Areas

* Development, validation and debugging of IoT hardware platforms
	+ Work with and validate hardware functionality based on data sheets, schematics, and Printed Circuit Board designs
	+ Management of logistics to source and deploy IoT technologies
* Embedded software development for low-power embedded devices
	+ Data collection from high-frequency time-series and image-based sensors
	+ Low-power wireless communication protocols such as Bluetooth Low Energy, LoRa, LTE
	+ Embedded analytics software, including machine learning
	+ Web- and smartphone-based graphical user interface for live sensor data visualisation
* Generation of high-quality ground truth data sets for algorithm improvement
* Communicate effectively and respectfully with all staff, clients, and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work as part of a multi-disciplinary, often regionally dispersed research team, to carry out tasks under limited direction in support of scientific research.
* Adapt and/or develop original experimental methods/equipment/software/concepts/ ideas in support of existing and further research.
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.

## **Selection Criteria**

#### Essential

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

1. Proficiency with developing applications for low-power embedded devices (such as Nordic NRF52). Experience with embedded operating systems (such as Zephyr or FreeRTOS).
2. Experience developing software for embedded Linux devices (such as Raspberry Pi, Beaglebone or Jetson devices).
3. Demonstrated experience with implementation and deployment of low-power wireless networks (BLE, 802.15.4, LoRaWAN, LTE-M, NB-IoT).
4. Experience working with PCB Design software (Altium Designer or equivalent) to design and/or review schematics, PCB layouts.
5. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks under general direction from Scientific Researchers.
6. The ability & willingness to contribute novel ideas and approaches in support of scientific investigations.

## **Desirable**

1. Experience with field-testing of IT systems, including user studies, field experiments, analysis of field trial data, and in-situ debugging.
2. Experience designing User Interfaces for interacting with embedded devices (i.e. web, phone app).
3. Experience with 3D CAD modelling (e.g., solid works)

## **Required Competencies**

* **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.

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.

* **Education/Qualifications:** Relevant Bachelors/Master’s Degree or equivalent experience in Software/Electrical Engineering.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Data61](https://www.csiro.au/en/about/people/business-units/data61) 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