# Position Details

## CSIRO Early Research Career (CERC) Postdoctoral Fellowship– CSOF4

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| The following information is for applicants |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in Collaborative Intelligence - Cybersecurity |
| Job Reference | 78581 |
| Tenure | Specified Term of 3 years Full-time |
| Salary Range | AU$89,923 to AU$98,504 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Sydney/Melbourne |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Group Leader, Distributed Systems Security |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Surya Nepal via email at Surya.Nepal@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. |

### Role Overview

**CSIRO Early Research Career (CERC) Postdoctoral Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work experience. These fellowships will help launch their careers, provide experience that will enhance their career prospects, and facilitate the recruitment and development of potential leaders for CSIRO.

CERC Postdoctoral Fellows **are appointed for three years** and will work closely under the direction of senior research scientists and engineers. They carry out innovative, impactful research of strategic importance to CSIRO with the possibility of novel and important scientific outcomes. They present the findings in appropriate publications and at conferences.

The postdoctoral fellow will be part of the collaborative intelligence (CINTEL) Future Science Platform (FSP) that will develop the science that enables human intelligence and technology to work together across multiple domains, driving sustainable productivity growth and improving both the quantity and quality of jobs for human workers. The postdoctoral fellow will develop tools and processes required to integrate artificial and human intelligence and produce a general-purpose technology which could have a transformative impact across a wide range of industries and domains.

The postdoctoral fellow will conduct research on human-machine collaboration to support collaborative surveillance in Security Operations Centres (SOCs) with the aim of addressing “alert fatigue”. With cyber security risks increasing daily, security analysts at SOC need to be effective in prioritising alerts to ensure that critical security issues are identified and addressed promptly. However, identifying critical alerts in a SOC is a bit like looking for a needle in a haystack when it is moving at fibre-optic speed. The research question that this project will address is how the humans and AI components can collaborate with each other, getting to the appropriate prioritisation and action, without the cognitive overload and attention loss. The AI needs to assist with prioritisation of alerts, provide rationales for the prioritisation, and provide appropriate visualisations. The human expert needs to inject knowledge to help with the prioritisation. The resulting human-AI symbiosis will not only lead to improved SOC productivity but also ease the emotional toll on cybersecurity analysts. The developed solutions will be applicable to any application domain that has a command-and-control-centre with situation awareness.

### Duties and Key Result Areas:

Under the direction of senior research scientists and engineers, CERC Postdoctoral Fellows:

* + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
	+ Work with CSIRO scientists, engineers and other postdoctoral fellows within the larger Future Science Platform – Collaborative Intelligence.
	+ Produce high quality scientific papers suitable for publication in quality journals.
	+ Prepare appropriate conference papers and present those at conferences as agreed with supervisor.
	+ Undertake regular reviews of relevant literature and patents.
	+ Contribute to the development of innovative concepts and ideas for further research.
	+ Work collaboratively with colleagues within the team, the business unit, and across CSIRO.
	+ Communicate 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 Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

**The CERC Postdoc**toral **learning and development** programis developed between the CERC Postdoctoral Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellows’ capabilities to the level expected of an independent researcher and will include on-the-job and course-based development encompassing:

* Discipline-specific techniques and protocols
* Professional growth
* Project management
* Communication and influencing skills
* Working and collaborating with others

<https://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships>

## **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 doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as Computer Science, Social Science, Behavioural Science or relevant field.
2. Please note: To be eligible for this role you must have **no more than 3 years** (full time equivalent) of postdoctoral research experience.
3. Previous research experience working at the intersection of Computer Science and Social Science or Behavioural Science
4. Previous experience working in Human-Machine Interaction (HMI)
5. Demonstrated track record of publications in quality, peer reviewed journals and prestigious conferences.
6. Demonstrated ability to conduct independent research with limited supervision.
7. Demonstrated ability to work in a team, collaborate across disciplines and build effective relationships.
8. Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders and students.
9. Demonstrated ability to represent the research team effectively internally and externally, including publishing in peer reviewed journals and/or authorship of scientific papers, reports, and presenting at national and/or international conferences.

## **Desirable:**

1. Knowledge of Security Operations Centre (SOC)
2. Knowledge of AI/ML and NLP

To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates are required to have **submitted** their PhD at the time of commencement, as a minimum requirement, if PhD conferment has not been obtained. If a candidate has submitted, but their PhD has not yet been formally attained, the starting salary will be CSOF4-1 ($87,068). Upon CSIRO receiving written confirmation that the PhD has been awarded (within a six-month period from commencement date), the salary will be increased to the negotiated level and the difference will be back-paid to the Officer’s start date.

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 a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Information disclosed in a National Police Check will only be considered if it is relevant to the inherent requirements of the job.

Applicants who are not Australian Citizens or Permanent Residents may require additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e., IELTS test)

**Our value proposition**

We want Postdoctoral Fellows to join our world class science, engineering and digital teams to solve big, complex problems that make a real difference to the future of Australia and the world.

You'll get to work with some of the most talented minds in their fields, not just in Australia, but in the world. At CSIRO, we spark off each other, learn from each other, trust each other and collaborate closely to achieve more than we could individually.

CSIRO Early Research Career (CERC) Postdoctoral Fellow Experience Employee Value Proposition (EVP). Find out more [here](https://www.csiro.au/en/careers/postdoctoral-fellowships)!

## **About CSIRO:**

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

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* 1. People First
	2. Further Together
	3. Making it Real
	4. Trusted

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