# Position Details

## Research Scientist/Engineer- CSOF5/6

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| The following information is for applicants |
| Advertised Job Title | Research Scientist (2 Positions) |
| Job Reference | 65861 |
| Tenure | Indefinite Full-time  |
| Salary Range | CSOF5: AU$98,735 to AU$106,848 pa + up to 15.4% superannuationCSOF6:AU$113,338 to AU$132,811 pa + up to 15.4% superannuation |
| Location(s) | Sydney, NSW or Canberra, ACT |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Team Leader |
| Client Focus – Internal | 75% |
| Client Focus – External | 25% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Olivier Salvado via email at Olivier.salvado@csiro.auP*lease do not email your application directly to Olivier Salvado. 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 or call 1300 984 220. |

### Role Overview

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You will be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts. CSIRO has a strong collaborative network with leading Universities and Research Scientists are expected to work collaboratively with academics, but do not have any teaching duty. CSIRO Data61 offers a range of opportunities for personal development, including support for entrepreneurship.

The Research Scientist will develop innovative machine learning methods (deep learning) for the analysis of images. There are several projects available including medical image analysis, 3D object detections, and human pose estimation. Aspects involving spatio-temporal modelling and tracking are of high importance for our research. The Research Scientist will join the high-performing Imaging and Computer vision Group (40+ staff and students), joining 600 other data scientists building innovative solutions for Australia from CSIRO Data61.

### Duties and Key Result Areas:

* Develop innovative concepts, theories, tools and techniques related to the analysis of video and still images.
* Harness the growing volume of publicly available data sources, as well as work on establishing proprietary datasets in collaboration with our partners.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Under limited direction, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Represent CSIRO at leading national and international conferences and forums;
* Address problems promptly and in a constructive manner, selecting the most profitable lines of attack upon a problem, preparing detailed design proposals and experimental protocols.
* Undertake in experimental and/or observational research activities, often requiring the supervision and/or training of others to ensure experiments are established in accordance with research design, or as required.
* Draw on professional expertise, knowledge of other disciplines and research experience, recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* 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:**

* Develop national and international network of collaborators.
* Proactively identify business opportunity and assist in supporting our clients from early engagement to project completion.
* Support and co-supervise junior staff and students.
* Identify and apply for funding opportunity.

## **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:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **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.

## **Additional Competencies at CSOF6:**

* **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:** Set up and maintains effective 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 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.

## **Selection Criteria**

#### Essential

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

* A PhD in a relevant discipline area, such as computer vision or medical image analysis, with at least 3 years of experience since obtention of PhD.
* Demonstrated experience in 3D computer vision such as
	1. reconstruction, visual localisation and mapping,
	2. human pose detection and analysis,
	3. semantic vision with reasoning about the 3D world, and
	4. understanding visual scenes over time, or advanced deep learning methodology applied to medical image analysis.
* Strong experience with scientific computing platform and programming languages such as Python, Matlab, C++, PyTorch, Tensorflow.
* High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including the presentation of research outcomes at national and international conferences.
* A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
* A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

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

* At least 6 years experience since PhD graduation.
* Track record of successful competitive or commercial funding
* Track record of scientific publications and research community engagement

**Desirable:**

* Mathematical/analytical background, in areas related to computer vision and image analysis.
* Demonstrated GPU/Parallel Computing experience

## **About CSIRO:**

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

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