# Position Details

## Research Projects- CSOF4

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| The following information is for applicants | |
| Advertised Job Title | Experimental Scientist – Imaging and Computer Vision |
| Job Reference | 66432 |
| Tenure | Specified Term of 18 months  Full-time |
| Salary Range | AU$83,687 to AU$94,679 pa + up to 15.4% superannuation |
| Location(s) | Marsfield, Sydney, NSW |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents Only  *For Specified Term positions, we will accept applications from Temporary Residents with working rights for the length of the term, who do not require sponsorship.* |
| Position reports to the | Research Team Leader |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dadong Wang via email at [dadong.wang@csiro.au](mailto:dadong.wang@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](mailto:careers.online@csiro.au) or call 1300 984 220. |

### Role Overview

The role of Experimental Scientist in CSIRO contributes to research through the development of original and adapted experimental methods and software by undertaking a wide variety of tasks. You will frequently encounter new problems where methods are not defined and initiative is required in seeking new approaches to meet experimental needs. You will participate in the identification and definition of research problems with colleagues and liaise with clients to determine their needs.

The role of the Experimental Scientist is to develop innovative machine learning methods (deep learning) for the analysis of images and videos. There are several projects including object detection, classification and tracking with applications in multiple domains such as agriculture and fishery management.

In this role you will join the high-performing Imaging and Computer vision Group at the CSIRO’s Data61, joining 600 other data science scientists building innovative solutions for Australia. The experimental scientist will be supported by a large Team comprising many research scientists, engineers and post-graduate students.

### 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.
* Make significant contributions to the interpretation and communication of research or technological results and collaborate on drafting presentations to, and detailed written reports for clients and the scientific community.
* Under general direction participate in planning projects and accept responsibility for the scheduling and completion of major parts of projects, including allocating and directing tasks where appropriate.
* Provide coaching, on-the-job training and instruction to colleagues, on activities pertaining to the immediate work area and responsibilities, allocate activities, direct tasks and manage resources to meet objectives, as required.
* Adapt and/or develop original experimental methods and software in support of existing and further research, promptly addressing where methods may not be defined and initiative is required in seeking new approaches to meet experimental and technological needs.
* 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.

## **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) or equivalent experience in a relevant discipline area, such as computer science, mathematics or engineering.
2. Demonstrated experience in developing software with one or more programming languages such as: Python**,** C++, C#, Matlab.
3. Strong experience in widely used computer vision and deep learning models and libraries, and frameworks such as OpenCV, TensorFlow, and Caffe.
4. Demonstrated experience in machine learning, image analysis and computer vision such as object detection, classification and tracking.
5. 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.
6. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
7. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations and industry applications.

## **Desirable:**

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

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.

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