

Position Description – Research Assistant

Position Details

Position Title: Research Assistant

College/Portfolio: STEM **School/Group:** School of Science/CAN/ARC E2Crop Hub

Campus Location: Primarily based at City campus, and the potential to work across other RMIT campuses as required.

Classification: Academic Level A

Time Fraction: 1.0

Employment Type: Fixed Term

Fixed Term Reason: Research

Reporting Line: Distinguished Professor Baohua Jia

No. of Direct reports: 0

RMIT University

RMIT is a global university of technology, design and enterprise, committed to creating transformative experiences for students and making a meaningful impact through research, innovation, and engagement. For more information on RMIT University follow the links below.

<https://www.rmit.edu.au/about>

<https://www.universitiesaustralia.edu.au/university/rmit-university/>

<https://www.rmit.edu.au/about/facts-figures>

Our campuses in Melbourne (City, Brunswick, Bundoora, and Point Cook) are complemented by international campuses in Vietnam and a centre in Barcelona, Spain. We proudly acknowledge the Woi Wurrung and Boon Wurrung peoples of the eastern Kulin Nation on whose unceded lands our campuses are located.

We are deeply committed to reconciliation and Indigenous self-determination, embedding these values throughout our policies, culture and structures.

<https://www.rmit.edu.au/about/our-locations-and-facilities>

Why Join RMIT?

Our people are at the heart of everything we do. At RMIT, we value innovation, collaboration and impact. Our values are the heart (durrung) of who we are and what we stand for at RMIT. They guide what we do, how we make decisions, and how we treat each other.



Inclusion Imagination Integrity Courage Passion Impact

Learn more about our values: <https://www.rmit.edu.au/about/our-strategy/values>

Organisational Accountabilities

RMIT is committed to the safety, wellbeing and inclusion of all staff and students. As a staff member, you are expected to comply with all relevant legislation and RMIT policies, including those related to: Equal opportunity, Occupational health and safety, Privacy and trade practices & Child safety standards:

Appointees are responsible for completing all required training and ensuring that they and their team members remain up to date on relevant compliance obligations.

Staff are expected to understand and support RMIT's child safe practices as part of their professional responsibilities. More about our child safety commitment: <https://www.rmit.edu.au/about/our-locations-and-facilities/facilities/safety-security/child-safety>.

Leadership at RMIT

At RMIT, leadership is not defined by position or hierarchy—it is a shared responsibility demonstrated by all staff, regardless of role or title. Leadership is grounded in our six core values, which guide and shape how we work together, make decisions, and create impact.

Effective leadership means consistently integrating these values into everyday actions and interactions, whether influencing a project outcome, supporting a colleague, or leading a team. All staff are expected to embody the principles of the *Be-Know-Do* Leadership Model:

Be – We are open and authentic, inclusive and empowering. We are purpose driven role models and communicators.

Know – We are self-aware, and understand our stakeholders, our sector and priorities.

Do – We set clear direction and expectations, we develop ourselves and others and promote mutual accountability to deliver results.

At every level, leadership at RMIT is about influence, contribution, and mindset. It is reflected in how we empower others, foster collaboration, and drive positive change through capability-building and alignment to strategic goals.

College/Portfolio/Group

ARC E2Crop Hub

The ARC Research Hub for Intelligent Energy Efficiency in Future Protected Cropping (E2Crop Hub) is an Australian Research Council (ARC) supported major initiative which aims to pioneer solutions in renewable energy, plant quality enhancement, intelligent greenhouse monitoring and analysis to drive forward the vast potential of protected cropping.

The Hub is led by RMIT University and includes researchers from 3 other Australian universities.

Working alongside 12 industry partners over a five-year research program, the Hub will focus on delivering advanced energy technologies for greenhouses, enabling them to be self-sustained, affordable, and powered by renewable energy, and new automated decision-making techniques for farmers.

<https://e2crophub.com/>

Centre for Atomaterials and Nanomanufacturing (CAN)

CAN was established to enable the conception, design, theoretical modelling, synthesis and characterisation of the next-generation atomic-scale materials (atomaterials), and development of transformative technologies of such novel materials.

The Centre is a world leader in innovative and emergent materials science, with strong ties to fundamental science and industrial applications. It revolutionises the current fields of materials design, nanofabrication, and atomic characterisation by restructuring the most fundamental material building blocks at the atomic level.

These outcomes will lay a solid foundation for the next generation of functional materials and miniaturised devices, outperforming macroscale materials/devices on detection accuracy, energy efficiency and production efficacy.

<https://www.rmit.edu.au/can>

Position Summary

The Research Assistant will focus on the development and application of photonics and integrated photonic technologies, including on-chip optical systems and light–matter interaction at the micro- and nanoscale, for next-generation solutions in energy, sensing, and sustainable environments.

The role will contribute to both fundamental and translational research, with applications spanning advanced manufacturing, environmental monitoring, and controlled environment agriculture (e.g., protected cropping systems).

Key Accountabilities

RMIT University is committed to the health, safety and wellbeing of its staff. RMIT and its staff must comply with a range of statutory requirements, including equal opportunity, occupational health and safety, privacy and trade practice. RMIT also expects staff to comply with its policy and procedures, which relate to statutory requirements and our ways of working.

RMIT is committed to providing a safe environment for children and young people in our community. Read about our commitment and child safe practices. <https://www.rmit.edu.au/about/our-locations-and-facilities/facilities/safety-security/child-safety>

Appointees are accountable for completing training on these matters and ensuring their knowledge and the knowledge of their staff is up to date.

1. Conduct research/scholarly activities under limited supervision either independently or as a member of a team including: publishing and presenting research outputs at conferences and research forums; contributing to external research funding submissions; participating in supervision of higher degree by research candidates.
2. Develop algorithms and systems that enable computers to understand visual data, including images and videos.
3. Using machine learning and artificial intelligence to develop software that can recognise patterns, objects, and scenes.
4. Imaging process and use software to combine images and render 3D images.
5. Design and develop integrated photonic circuits for sensing, communication, and control; miniaturised optical systems and lab-on-chip platforms; spectral and optical field engineering solutions
6. May undertake limited teaching and supervision at undergraduate levels as required.
7. Undertake administration related to the position.
8. Other duty as directed.

Key Selection Criteria

1. Proficiency in programming languages, including Python, C++, or Java, focusing on algorithms and data structures applied explicitly in computer vision projects
2. Knowledge of machine learning and deep learning frameworks, including TensorFlow or PyTorch
3. Knowledge of neural networks – especially convolutional neural networks (CNNs)
4. Understanding of image processing techniques – including filtering, edge detection, and image segmentation– for manipulating images
5. Familiarity with computer vision libraries, like OpenCV or Dlib, for developing and implementing vision-based models
6. Familiar with 3D refractive imaging technique with demonstratable track record.
7. Mathematical skills in linear algebra, calculus, and statistics for algorithm development and data analysis

8. Evidence of research output including high quality publications, conference contributions and/or technical reports in the field.
9. Ability to generate alternative funding projects through effective liaison with industry and government.
10. Ability to work autonomously whilst displaying a strong commitment to work in a team environment, including the demonstrated ability to confidently and effectively work with colleagues, project team leaders, and industry partners.
11. Demonstrated ability to meet deadlines and effectively manage varying workloads and respond to changing priorities as required.
12. Demonstrated high level of communication skills.

Qualifications

Mandatory:

1. Ph.D. degree in Optical engineering, Applied Physics, or Computer Science
2. Problem-solving abilities for determining innovative solutions to the complex problems common to computer vision engineering – such as dealing with messy background or addressing issues with object detection.
3. Attention to detail for ensuring precision in coding and model training – and enhancing the accuracy and reliability of computer vision applications.
4. Collaborative skills for working effectively with data scientists, software developers, and project managers.
5. Adaptability, including a willingness to stay updated with the rapidly evolving field of computer vision and learn new techniques and technologies as they emerge.
6. Communication skills for explaining technical project requirements, progress, and outcomes to non-technical stakeholders

Working with Children Check

Appointment to this position is subject to holding a valid Victorian Working with Children Check and other checks as required by the specific role. Maintaining a valid Working With Children Check is a condition of employment at RMIT.