Position Description – Research Fellow in Computer Vision

Updated 20 September 2024

POSITION DETAILS	
College	**College of Science and Engineering**
Organisational Unit	**Electrical, Electronic and Robotic Engineering**
Supervisor	**Associate Professor**
Classification	**Research (Academic) Level B**
Employment Type	**Fixed-term 2.5 years, full-time**

POSITION SUMMARY

The Research Fellow will undertake research in Computer Vision under the broad direction of the Associate Professor Brinkworth, and in conjunction with the research team, the incumbent will assist in leading the design and execution of the research project performing tasks such as:

- Develop and optimise existing models of insect-inspired sensor processing
- Develop and implement target detection techniques for complex lighting conditions
- Software coding of embedded computing hardware for real time signal processing operations
- Integrate infrared and visual imaging technology/techniques
- Incorporate modern machine learning techniques for object classification in images
- Examine and compare the new technology's potential with existing detection techniques
- Assist in the design and execution of field trials
- Analyse data from field trials

The Research Fellow will actively report on new and current research related to the research program, through generation of high-quality publications and conference presentations. In addition, the position will contribute to the preparation of applications for externally funded research funding.

The incumbent will assist in supervising honours and Masters project students involved in similar project areas according to the University's policies, practices and standards.

UNIVERSITY EXPECTATIONS AND VALUES

All staff at Flinders are responsible for understanding their obligations and responsibilities as set out in the University's code of conduct and are expected to:

- demonstrate commitment to the University's values of Integrity, Courage, Innovation, Excellence and the underlying ethos of being Student Centred;
- contribute to the efficient and effective functioning of the team or work unit in order to meet the University's objectives. This includes demonstrating appropriate and professional workplace behaviours, providing assistance to team members if required and undertaking other key responsibilities or activities as directed by one's supervisor;

- promote and support an inclusive workplace culture which values diversity and embraces the principles of equal opportunity;
- perform their responsibilities in a manner which reflects and responds to continuous improvement; and
- familiarise themselves and comply with the University's Work Health and Safety, Injury Management and Equal Opportunity policies.

A National Police Certificate which is satisfactory to the University will be required by Flinders University before the successful applicant can commence in this position.

An up to date COVID-19 vaccination may be required as a condition of employment, in accordance with the Flinders University COVID-19 Vaccination Policy (2022). If required, any offer of employment will be subject to the successful candidate presenting their COVID-19 Digital Certificate as evidence of vaccination or showing evidence of a valid medical exemption, where relevant.

KEY POSITION RESPONSIBILITIES

The Research Fellow in Computer Vision is accountable for:

- Actively contributing to the research project in the field of signal and sensor processing and complex target detection by collaborating with Associate Professor Russell Brinkworth and the Project Research Team to successfully deliver project milestones and Key Performance Indicators.
- Independently contributing to the planning and execution of research by offering new and innovative ideas, reviewing relevant literature and other sources of information, actively participating in the production of data, contributing to the writing and editing of grant applications and attending seminars, meetings and conferences.
- Playing a lead role in coordinating, planning and executing the project tasks required to collaborate with industry partners.
- Independently contributing to ethical, high quality and innovative research and evaluation through activities such as scholarship, publishing in recognised high quality journals and assisting the preparation and submission of bids for external research funding.
- Supervision of honours and post graduate research projects.
- Establishing and maintaining collaborations within the University, and at State, national and international levels in order to improve research outputs, patents and publications.
- Some out of hours work (including weekends) as well as rural SA, interstate and overseas travel, may be required.
- Any other responsibilities in line with the level of the position as assigned by the Supervisor and/or the University.

KEY POSITION CAPABILITIES

- Completion of a PhD in Electrical & Electronic or Robotic Engineering or Computer Science or a related field.
- Demonstrated research experience in terms of publications in high quality publications, attraction of external competitive grants and presentations at a national and/or international level in Computer Vision or related field.
- Demonstrated experience in qualitative and quantitative research methodology.
- Demonstrated experience delivering project targets on time.
- Demonstrated ability to plan and execute data collection and analysis.

- Demonstrated well-developed interpersonal skills and experience in collaborating and engaging with diverse stakeholders and industry partners.
- Demonstrated ability to critically review the literature in relevant fields.
- Demonstrated experience to undertake collaborative research and establish and maintain effective relationships with staff and industry.
- Demonstrated excellent oral and written communication skills in an academic environment.