



Position Description

College/Division:	College of Engineering & Computer Science
Faculty/School/Centre:	School of Computing
Department/Unit:	
Position Title:	Senior Research Officer
Classification:	ANU Officer 8 (Research)
Position No:	
Responsible to:	Associate Professor

PURPOSE STATEMENT:

The ANU College of Engineering and Computer Science is embarking on a 15-year project to reimagine a new type of engineering and computing, one that is custom built and fit for the middle of the 21st century. The Reimagine project aims to get us thinking about what our world will be like in 2050, when we are completely embedded in both a digital and physical environment, and to encourage us to take charge and shape a new intellectual agenda. Our lived experience is increasingly one of large-scale systems of people, who's actions and interactions are influenced by our digital, physical and biological environment. We and our technology are highly interconnected and yet highly diverse. Somebody, somewhere designed, built, and operates almost everything.

We believe the world needs new types of engineers, computer scientists and designers. We can't deploy methods and techniques of the past and expect new outcomes for the future. We need to reimagine problem framing and solving, incorporate diverse voices and approaches, and work together now to ensure our future leaders and communities are prepared for the work to come. We welcome and openly acknowledge differences in expertise, research / education / professional focus, experience and perspective.

The Senior Research Officer provides comprehensive support on a diverse range of research activities, including the application of solid knowledge of the discipline and research skills to conduct research independently or as part of the research team.

KEY ACCOUNTABILITY AREAS

Position Dimension & Relationships:

The Senior Research Officer is responsible to the lead researcher in the design and implementation of research directions, applying research, analytical and problem solving skills to meet complex stakeholder requirements.

Role Statement:

Under the broad direction, the Senior Research Officer will:

- Contribute to the design and implementation of new algorithms for autonomous decision-making under uncertainty.
- Contribute to the design and analysis of the algorithms and implemented software in a variety of problems, especially on autonomous penetration testing and robotics problems.
- Contribute to writing research papers and software documentation.
- Design and manage the conduct of high level data synthesis and analysis, develop and review the relevant analysis report and briefs including identifying key issues and making recommendations, disseminating and presenting relevant research findings through high quality publications, seminars, workshops and conferences.
- Help provide relevant technical support to the research team. The level of support and expectation of independent work vary depending on the level of appointment.
- Develop and maintain effective communications and relationships with various stakeholders and organisations associated with the research activities. Proactively identify and source relevant funding opportunities, assisting with developing funding proposals and grant applications
- Maintain knowledge of national and international research programs and discipline by participating in internal and external networks. Advise on and develop new strategies for the support and implementation of research programs and actively participate in the continuous improvement of the College research practices and processes.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity.
- Perform other duties as directed, consistent with the classification level of the position.

SELECTION CRITERIA:

1. Fluency in C++ programming, and good understanding of Python programming.
2. Comfortable working in Linux / *nix environment.
3. Understanding and experience in the implementation of a variety of graph and tree data structures.
4. Understanding of sampling-based motion planning (e.g., Probabilistic Roadmap) and decision-making under uncertainty frameworks, in particular Markov Decision Processes / Partially Observable Markov Decision Processes will be a plus.
5. Postgraduate qualification, or progress towards postgraduate qualifications in a Computer Science, Artificial Intelligence, or Robotics will be a plus. However, solid undergraduate/Master in the mentioned area are also welcome.
6. Demonstrated high interpersonal and leadership skills, including experience in supervising junior staff and an ability to negotiate and influence a wide range of stakeholders.
7. Demonstrated high level verbal and written communication skills, including extensive experience writing speeches and strategies, producing high quality publications and briefs, project progress reports and various research related papers.
8. Proven organisational and project-management skills and attention to detail, with a demonstrated ability to prioritise own workload and to work effectively under limited supervision, meet competing deadlines and deliver high-quality outcomes.
9. A demonstrated high level of understanding of OH&S and equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the [Background Checking Procedure](#) which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	21 February 2022
Printed Name:	Hanna Kurniawati	Uni ID:	U6503991

References:

[General Staff Classification Descriptors](#)

Pre-Employment Work Environment Report

Position Details

College/Div/Centre	CECS	Dept/School/Section	Computing
Position Title	(Senior) Research Officer	Classification	ANU06-08
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a duty to provide a safe workplace.

This form must be completed by the Supervisor of the advertised position and forwarded with the job requisition to Recruitment and Appointments Branch, Human Resources Division. Without this form jobs cannot be advertised.

This form is used to advise potential applicants of work environment hazards prior to application.

Once an applicant has been selected for the position consideration should be given to their inclusion on the University's Health Surveillance Program where appropriate – see [Health Surveillance Procedure](#)

Enrolment on relevant Work, Health and Safety (WHS) training courses should also be arranged – see [WHS Training & Induction](#)

Consideration should be given as to whether 'Regular' hazards identified below should be listed as 'Essential' in the Selection Criteria

Potential Hazards

Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a **regular** or **occasional** part of the duties.

TASK	regular	occasional	TASK	regular	occasional
keyboarding	X		laboratory work	na	
lifting, manual handling		X	work at heights	na	
repetitive manual tasks		X	work in confined spaces	na	
catering / food preparation		X	noise / vibration		X
fieldwork & travel		X	electricity		X
driving a vehicle		x			
NON - IONIZING RADIATION			IONIZING RADIATION	na	
solar			gamma, x-rays	na	
ultraviolet			beta particles	na	
infra-red			nuclear particles	na	
laser					
radio frequency					
CHEMICALS			BIOLOGICAL MATERIALS		na
hazardous substances			microbiological materials		na
allergens			potential biological allergens		na
cytotoxics			laboratory animals or insects		na
mutagens/teratogens/ carcinogens			clinical specimens, including blood		na
pesticides / herbicides			genetically-manipulated specimens		na
			immunisations		na

OTHER POTENTIAL HAZARDS (please specify):

Supervisor's Signature:		Print Name:	Hanna Kurniawati	Date:	21 Feb 2022
--------------------------------	---	--------------------	------------------	--------------	-------------