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POSITION DESCRIPTION

Research Associate

Deep Learning for CBRN Spread Prediction

Position Level	Level A
Faculty/Division	UNSW Canberra (ADFA)
School	School of Engineering and Technology
Position Number	00194647
Original Document creation	26/02/ 2024

Position Summary

The Research Associate position is situated within the School of Engineering and Technology. As a member of a research team, the Research Associate will undertake research as directed by the Lead Investigator. The position will involve research activity aimed at developing models for predicting the spread of CBRN threats and tasking teams of uncrewed aerial and ground vehicles to collect necessary data to improve predictions. The incumbent will ideally have experience in designing deep learning models to make predictions based on various sensor data and images. Knowledge of sensor fusion, robotics and multi-robot coordination would also be looked at favourably. The Research Associate will contribute to the development of research results and their publication in international journals, participate at a national and/or international conference/s and undertakes a range of teaching duties.

The role of Research Associate reports to the Lead Investigator of the grant.

Accountabilities

Specific accountabilities for this role include:

- Conduct research as directed by the chief investigators.
- Develop and test deep learning models to predict the spread of simulated CBRN threats.
- Develop and test deep learning models to predict the best locations for robots to gather data.
- Prepare reports summarizing the results gained from the research.
- Prepare journal and conference publications based on the research.
- Undertake a range of high-quality teaching activities related to deep learning within the school.
- Mentoring, supervising and providing advice to higher degree research and honours students.

- Undertake a range of administrative tasks as directed.
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others
- Align with and actively demonstrate the [UNSW Values in Action: Our Behaviours](#) and the [UNSW Code of Conduct](#).

Skills and Experience

- A PhD in deep learning, computer vision, or a related discipline.
- A demonstrated ability to conduct innovative and independent research.
- A record of papers in high quality journals and/or conferences of high ranking in the field.
- Experience in programming in Python is essential.
- Experience with real and simulated robotics, and sensor data will be highly regarded.
- Ability to conduct tutorials in use of deep learning models and libraries in a University environment and willingness to undertake teaching duties as required (open to negotiation).
- Excellent interpersonal, oral and written communication skills appropriate for interacting effectively team members, collaborators and colleagues across the Faculty.
- Demonstrated ability to work as a member of a multi-disciplinary team showing initiative and taking direction as appropriate to the situation.
- Demonstrated ability to complete tasks within agreed time frames, with suitable supervision.
- Knowledge of health and safety responsibilities and the ability and capacity to implement required UNSW health and safety policies and procedures.

Pre-Employment checks required for this position

- Verification of Qualifications
- Criminal History Check
- Identification Check

About this document

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.