POSITION DESCRIPTION

Position	Research Engineer
Level/Classification	ACLEA
Reports to	Associate Professor
Unit	School of Engineering and Energy
Directorate	College of Science, Technology, Engineering and Mathematics

Position Purpose

This position provides support to senior researchers through assisting in undertaking research tasks within the research team. This includes the system design and implementation, collection of and log of experimental data, submission of statement reports, spreadsheet development, data interpretation, professional report writing.

About Murdoch University

Murdoch University is a young and dynamic university with a foundational commitment to the environment, social justice and inclusion, and making education accessible to more people. Founded as Western Australia's second university in 1974, today, Murdoch has more than 21,000 students and 1,700 staff across campuses in Perth, Singapore and Dubai. With more than 90,000 Alumni, Murdoch graduates can be found all over the world, making a positive difference.

Our Strategy – Ngala Kwop Biddi. Building a brighter future, together – guides the University's direction and reaffirms our shared purpose to change lives and society for the better through accessible education and research.

The Strategy is focused on three key themes:

- Sustainability: Be a leading university in education, teaching and translational research in sustainability.
- Equity, Diversity, and Inclusion: Build a welcoming, diverse and inclusive community.
- First Nations: Become the University of first choice for First Nations peoples.

Murdoch is also committed to building engagement with our local community, State, nation, and global society with a track-record in creating strong partnerships with business, government and industry.

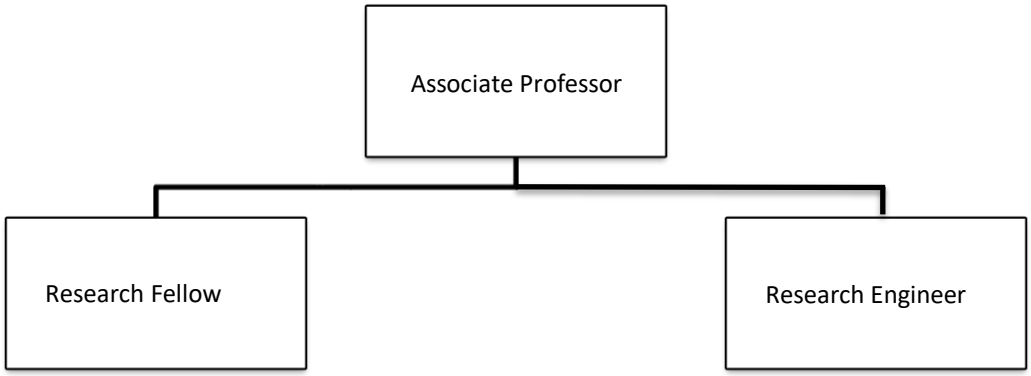
About the Work Area

The College of Science, Technology, Engineering and Mathematics was formed in January 2019 from an amalgamation of the Schools of Veterinary and Life Sciences, Health Professions, Psychology and Exercise Science, Engineering and Information Technology, and Education. The combination of these individually

strong areas will foster cross-disciplinary academic expertise and innovative multidisciplinary approaches to research and teaching. The College promotes excellent teaching and research facilities and has highly qualified academic and professional staff across the following disciplines:

- Engineering and Energy
- Information Technology, Math and Statistics
- Chemistry and Physics

Reporting Relationships



Key Responsibilities/Duties

1. Research Support for Multimodal Sensing Systems: Contribute to the design, development, and experimental implementation of multimodal sensing systems (e.g., RGB and thermal imaging) for dairy cattle monitoring; Support research activities related to system configuration, data acquisition, calibration, and experimental validation in controlled and field environments.
2. AI System Integration and Implementation for Research Experiments: Assist with the implementation and optimisation of AI models for real-time behavioural analysis on edge computing platforms (e.g., Jetson-based systems); Support experimental evaluation of model performance, including processing efficiency, system robustness, and reliability under varying environmental conditions.
3. Experimental Field Trials and Data Collection: Participate in field-based research trials conducted in dairy farm; Support the collection, management, and quality assurance of research datasets, and contribute to experimental testing, troubleshooting, and documentation of system performance for research and reporting purposes.
4. Prototype Development for Research Platforms: Support the development and integration of prototype sensing platforms; Assist in evaluating hardware configurations, sensor integration approaches, and prototype improvements to support research objectives and system scalability.
5. Operational Collaboration: Work closely with the Research Fellow and industry partner to ensure smooth deployment; Provide technical support during pilot validation and scale-up phases.
6. Undertake such other duties as required by your supervisor.

Selection Criteria

Essential

1. Completion of a tertiary qualification in Engineering, Mechatronics, Robotics, Electrical and Electronic Engineering, Computer Engineering, or a closely related field.

2. Demonstrated experience in hardware integration, system installation, and configuration of sensing devices (e.g., cameras, thermal sensors, embedded systems).
3. Strong programming skills relevant to AI deployment and system integration, including Python, C/C++, Linux environments, and experience working with edge computing platforms (e.g., NVIDIA Jetson or similar).
4. Demonstrated experience in implementing and evaluating AI models in real-time or embedded environments, including performance optimisation and experimental validation.
5. Demonstrated ability to troubleshoot and resolve technical issues during experimental testing or field-based research trials.
6. Strong analytical and problem-solving skills, with the ability to translate research concepts into practical engineering solutions to support research outcomes.
7. Good written and verbal communication skills in English, including the ability to prepare technical documentation and reports.
8. Ability to work effectively both independently and within a multidisciplinary research and industry collaboration environment, i.e., work closely with the Research Fellow and industry partner to ensure smooth deployment.

Desirable

1. Experience working with multimodal sensing systems, including RGB and thermal imaging technologies.
2. Experience in agricultural, environmental, or outdoor system deployment environments.
3. Familiarity with networking, data pipelines, and secure data storage solutions.
4. Experience in prototype development, mechanical and hardware housing design, or coordination with manufacturing partners.
5. Exposure to industry-funded or translational research projects.
6. Understanding of system reliability, optimisation, and operational monitoring in real-world operating scenarios.
7. Previous experience working in a laboratory.

Work Requirements

1. Australian permanent residency or possession of a valid visa with work entitlement in Australia.
2. Ability to work outside of normal office hours when required.

Probationary Review

This position may be subject to a probationary period, during which time the academic staff member is required to meet set probationary objectives and pass a probationary review. Probationary objectives are set following appointment to the position and confirmed at the first Academic Contribution Development Conversation (ACDC).

General Obligations

While at work, an employee must:

- take reasonable care for their own health and safety and ensure that their acts or omissions do not adversely affect the health and safety of other persons;
- report incidents, injuries and hazards;
- comply with any reasonable instruction that is given by Murdoch University; and
- comply with Murdoch University policies and procedures.

Guiding Principles and Values/Code of Ethics and Code of Conduct

Our Values

- Authenticity
- Integrity
- Respect
- Inclusivity
- Openness

Our Principles

- Act with justice, respect and responsible care.
- Be collegiate and respectful of other points of view.
- Protect academic freedom.
- Be agile, flexible and resilient.
- Make decisions at the most appropriate level.
- Be transparent in decision-making and with information.
- Adopt common approaches to common tasks.
- Be careful stewards of our resources.

All staff will comply with the University's Code of Ethics and Code of Conduct and demonstrate a commitment to its Equity, Diversity and Safety principles and the general capabilities of personal effectiveness, working collaboratively and demonstrating a focus on results.

All Staff undergoing a probation period are required to set probationary objectives with their leader within 3 months of commencement.

We acknowledge that Murdoch University is situated on the lands of the Whadjuk and Binjareb Noongar people. We pay our respects to their enduring and dynamic culture and the leadership of Noongar elders past and present. The boodjar (country) on which Murdoch University is located has, for thousands of years, been a place of learning. We at Murdoch University are proud to continue this long tradition.