

## Faculty of Engineering

### Summer Research Program 2024-2025

Project Title: AI-Powered Solutions for Advanced Robotic Grasping

Supervisor(s): Chao Chen

Department: Mechanical and Aerospace Engineering

Email: [Chao.Chen@monash.edu](mailto:Chao.Chen@monash.edu)

Website profile of project supervisor: <https://www.monash.edu/engineering/chaochen>

---

#### Objective

The main objective of this project is to leverage artificial intelligence methods, such as deep learning and reinforcement learning, to enhance the design, performance, and efficiency of existing robotic grasping techniques.

#### Project Details

This summer research program will explore the integration of advanced AI methodologies to optimise robotic grasping. Students will work on developing and implementing AI algorithms, including but not limited to deep learning and reinforcement learning techniques, to enhance the effectiveness and efficiency of existing robotic grasping approaches. The project will include both theoretical analysis and practical experimentation, with potential applications extending beyond agriculture to other domains.

#### Prerequisites

Applicants should have a strong background in robotics, or a related field. Prior experience with machine learning, particularly deep learning and reinforcement learning, is highly desirable. Strong programming skills in Python will be beneficial. Ideal candidates will be highly motivated, possess strong problem-solving skills, and have a keen interest in advancing robotic technologies through AI.

#### Additional Information

Give any additional information here – eg. 'applicants may be required to attend an interview'. (*Delete if not applicable*)

**Submit as a word document - no more than one page long.**