Faculty of Engineering
Summer Research Program 2021-2022

Project Title: TESTING AUTONOMOUS DRIVING SYSTEMS

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Objective
The aim of this project is to design, develop and carry out automated tests to study and validate algorithms used to enable autonomous driving systems.

Project Details
Testing and validating the decisions made by autonomous vehicles (AVs) are critical and necessary to ensure the safety of its operation as well as that of other road users in the shared environment. While trialling in the real world is a common method to test AVs, it is very expensive and often cannot test scenarios where the vehicle's supervisor or the public could be placed in a dangerous or compromised situation. In this project, you will learn and develop scientific testing method that can be carried out automatically using the simulation or interacting with the real AV vehicle available in the Monash connected autonomous vehicle Lab to test and validate AI algorithms and decisions made by AV in various scenarios.

Specific tasks might include
- Design and create test procedures and plans to support the testing of autonomous vehicles (hardware) and systems (software).
- Setup the test platform; develop and implement automated test scripts; prepare test cases; execute the testing and document results.
- Document and present results on weekly basis.

Prerequisites
- Be a highly self-motivated, enthusiastic, and reliable team member – essential
- Have an excellent proficiency in Python, Git, Unix/Linux – essential
- Have experience in AI/deep learning or self-driving car; and have a prior knowledge or ability to setup and test autonomous systems (Autowave, ROS) and related platforms – desirable

Additional Information
Applicants may be required to attend an interview before being offered the position.