Faculty of Engineering
Summer Research Program 2023-2024

Project Title: Trends in Student Performance

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Objective

This project will seek to develop techniques to automatically detect and analyse relevant trends in student grades across the Faculty of Engineering.

Project Details

The Faculty of Engineering teaches more than a hundred units to thousands of students each year. In order to effectively support our students, and provide recommendations on where to focus on improving specialisations, this project seeks to build up a suite of robust and automated analysis tools that can be used to identify units and patterns of units which may need review. As an example, knowing that performance in an elective unit, for example, may be a major predictor of success in a future unit will allow staff to make evidence-based recommendations to course design, unit content, prerequisites, amongst other considerations.

The student will work to propose, build, and validate both traditional statistical models and neural network models that will aim to provide likelihood values for a range of factors. The student would then develop metrics for automatically assessing the relevance of the model outputs. These models would be run for an arbitrary group of units on anonymized historic data.

Prerequisites

Previous experience in data science, or completion of units covering statistics/probability and neural networks is preferable.

Additional Information

Applicants may be required to attend an interview