## Project

## {Smart Class Attendance Taking System}

### Requirements

{Students who are interested in this project are required to be familiar with or willing to quickly learn GUI programming and face recognition/identification with Python.}

### Background

{As required by our university, student attendance of any modules for each session need to be recorded. This is usually done by asking the students coming to the class and manually sign the attendance sheet. When class size is big, this process usually takes more time and it is possible that one student forges the other student’s signature so that the other student can be absent from the class without been noticed. In addition, the module convenor need to make sure all of the students sign the attendance sheet to avoid unnecessary disagreement about the attendance in the future. As AI developed rapidly, face recognition techniques are widely used in many applications such as high speed train entering system, mobile phone unlocking, pay with your face, etc. This project aims to develop a smart class attendance taking system based on face recognition techniques. The system to be developed should be able to, once started, open a camera and take attendance automatically when students pass by (or look at the camera). }

### Outline

{ The core functions of the system include being able to recognize and identify the faces of the students enrolled in a specific module, recording time of arrival of the students given the time schedule once the face of the student is identified, statistical data such as how many students have attended for the current session and who are missing, how many classes are missed by a specific student, etc. The system should also have basic functions for such type of applications including student data (student id, portrait, etc) addition/modification/deletion/visualization, output loading/saving/generation, basic GUI, etc.}

### Tasks & Deliverables

{Tasks to be accomplished include: 1) overall system design; 2) face recognition design and development, data related function design and development; 3) GUI design and development; 4) testing at different levels.}

### {Information about Face Recognition}

{Students should note that the overall aim of this project is not to get the accuracy of the face recognition as high as possible. Instead, the students should focus on developing a fully functional system that makes use of existing face recognition techniques (API or existing algorithms on GitHub as long as the accuracy is acceptable and the original authors are acknowledged). Therefore, while it is good to have some machine learning or face recognition background, the students should not worry too much about these skills. These skills can be learned once the project is progressed.}