Spring 2020
Artificial Intelligence

Term Project

Team Members

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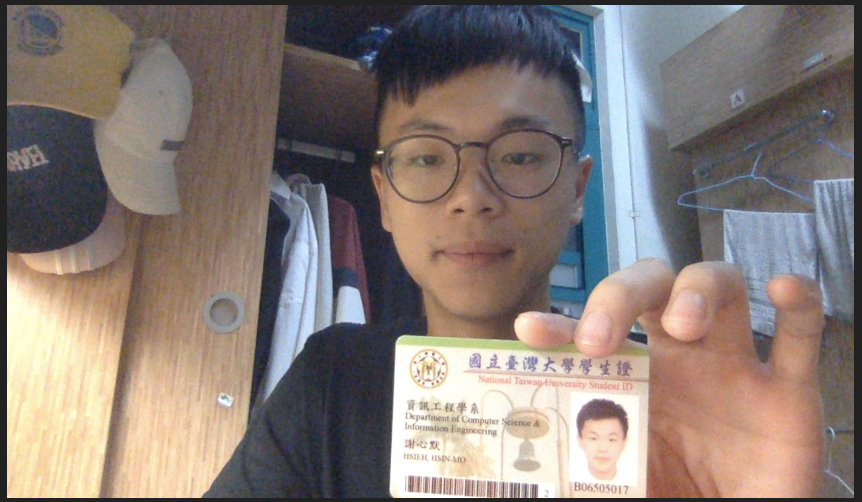

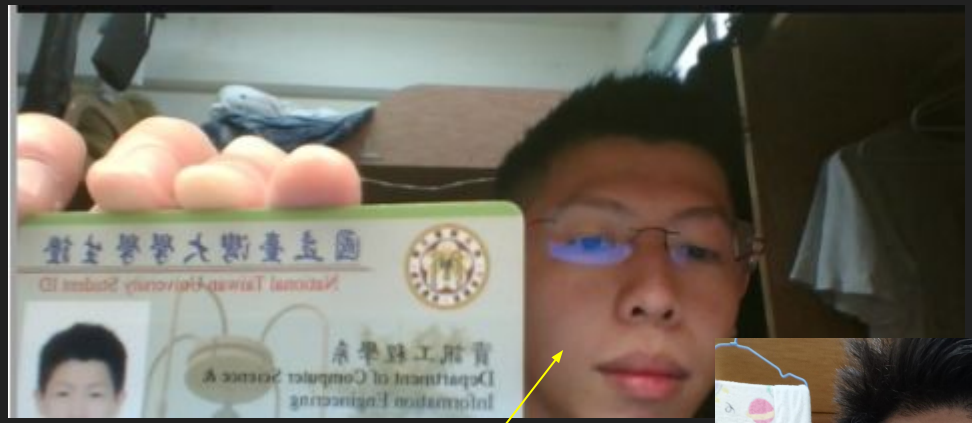

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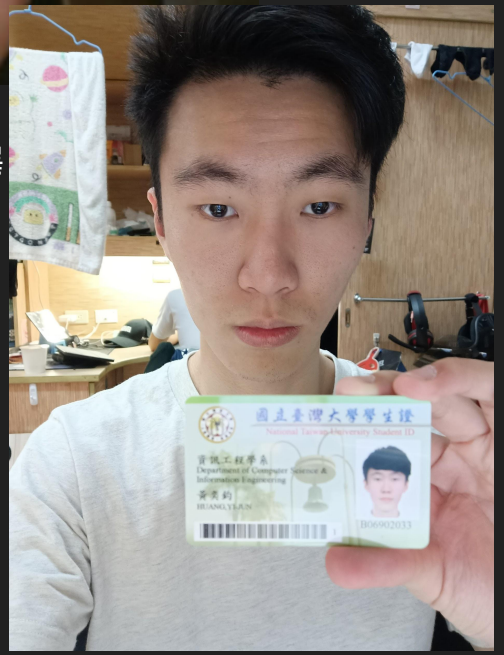

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Motivation/Background

As COVID-19 spreads out rapidly, the crowd is under a huge panic and we have done countless effort to keep us from the fatal epidemic disease. However, we may misestimate the importance of the harm due to the information asymmetry, and either overestimating or underestimating may lead to the society inefficiency.

As one part of the NTU family, we want to focus specifically on the campus of NTU. By analyzing the trend of infection mode and predicting the future, we hope to provide some useful information with the public.

Target Problem

Given the map of NTU, the number of people in campus, the position where people located by time sequence, and the probabilities of infecting COVID-19 under different conditions, can we predict the trend of the number of people infected with COVID-19 and mark the high risk position on the map of NTU ?

The problem mentioned above is an AI problem because we will use the historical data to adapt search methods and basic probabilistic model on simulating the infected state of NTU and predicting the high risk positions in the campus.

Proposed Solution

The rough idea: our goal is to design and build a model that can simulate the spreading of COVID-19 in the campus of NTU. Inspired by the idea of the pacman game in our homework, we want to take advantage of the structure and methods to simulate students at NTU as agents in the game. Each student in our model can either behave randomly (the basic case) or has a schedule of destinations and leaving time to follow. We'll mark the infected student(s) as a different color, hence, after simulation of days, we can simply observe the spreading rate and range through our moel.

Target resource to explore: we need the infection rate of COVID-19 under different conditions (e.g. when people stay in the same building) , informations of NTU's students (such as the number of resident students or the departments of students), etc.