Project Group: ISS IRS MTech Group 8
Project Title: CPF Investment Advisor
Group member: Lim Kah Ghi (A0100172A)

Individual Project Report

For this group project, I have learned a lot through contributing to the system codes, project report and video presentation. System codes include listing out the various rules required and where they are to be used in the user flow, such as minimum age and account requirements. I also converted the Charles Schwab Questionnaire into a decision table for the allocation of the risk profile. Labelling of the Singapore Exchange data and training of the decision tree algorithm was a major part of my learning journey as well.

Working on this project has been an eye-opener as I am not from an IT industry and the project really allows me to understand how a team works in terms of software/code integration and frontend/backend integration. Communication and regular updates were also really crucial in ensuring that the outputs and inputs to other parts can integrate seamlessly. I am grateful to my team members who split up the work and managed to complete the project on time despite our individual hectic schedules.

It was also really fulfilling to be able to see how the techniques learned through the lectures were used in implementing and eventually setting up the entire system for the solution to work. I especially liked the process of consolidating and transforming the data and knowledge into a useable format for the machine to work and learn from. Exploring the decision tree and seeing how an actual genetic algorithm works in python was also really interesting.

With the knowledge of how the entire system works for an optimization and recommendation system, similar problems can be tackled. One such area would be in my workplace. In my role as a product engineer, I am in charge of handing over the product parameters when scaling up from a laboratory sample to a production product. I have difficulties in optimizing the product parameters to minimize product runtime. Important features to consider would be colour/formulation, speed and beads ratio. Once historical data is digitalized, accurate and readily available, I can use a decision tree to determine which feature is the most important. Further analysis on individual colours can also be conducted and the parameters can be optimized to output a possible minimum production runtime.