Project

- Exactly 5 people per group (except one group)
- You can work on any topics of your own choice

Project Evaluation

20% - Practical Application

30% - Basic Programming Skill

40% - Libraries Usage

10% - Presentation

Practical application (20%)

- Pick a topic of your choice
- Define a problem and solve it
- It could be related to data analytics and model building, or it could be an application, or ideally a mixture of both
- Avoid working on Kaggle problems or using Kaggle datasets.

Sample topics of previous semesters

Investment and Stocks related

Topics

- Technical Analysis (e.g. Moving Averages, Candlesticks)
- Fundamental Analysis
- Portfolio Optimization
- Algo trading and backtesting
- MPF Funds selection
- Option mispricing detection

Tasks

- Gather Stock Data
- Analyse and build model
- Detect signal with real time data and alert / place orders through broker API

Sample topics of previous semesters

- Compare price of virtual goods in different online marketplaces
- Sentiment Analysis of social media posts
- News sentiment analysis
- Analysis of Openrice restaurant reviews
- Predict when will limited Chiikawa toys be sold

Basic programming (30%)

1. Correct usage of
    - Data Structures (including List, Dictionary, Set)
    - Function
    - For Loop/While Loop
    - Condition
    - Error Handling
2. Correct Logic
3. Simplicity of logic
4. Easy to read the code

Library usage (40%)

Correct usage of libraries, e.g.

- Getting Data online through Library, API or web scraping
- Integration with external system e.g.
  - Google Sheets
  - Telegram
  - LLM
- Data Visualization
- Statistical / Machine Learning Modeling and Prediction
- Any others that you learnt inside the class
- Any others that you learnt somewhere else

The more complex library usage being used correctly, the higher your marks.

Presentation (10%)

- 8 minutes Live presentation at the last Class
- Content
  - What's the problem you are trying to solve
  - How's your program solve the problem
  - Demonstrate how your program work/ Go through the data analysis
  - What are the interesting libraries that you used?
  - Any complex logic in your project that you want to show off
  - Any other interesting thing
- It's not a must for you to show your code in presentation. Do that if you think that help you to explain things
- Evaluation
  - Good presentation flow, Clarity of your points, Pace of your presentation

Self and Peer Review

- Fill in a form to evaluate your own and each of your teammate contribution to the project, especially on coding

Individual score adjustment

- Every members in the group share the same base score using the evaluation criteria mentioned above.
- Adjustment will be made based on your self-evaluation and your groupmates' peer evaluation.
- Everyone is expected to contribute to coding, as this is a programming class.
- **If you did not write any code for your group project, you will not get any score for your project.**

(For Tue Section Only)

- Adjustment will be made based on your comments, questions and feedbacks to other teams' presentation