COS30018 - Option B - Task 7: Extension

After you have completed Task 6, our code base has moved to version **v0.6**. If you have executed Tasks 1-6 well then version **v0.6** should be as good as possible given the limitations of historical stock price prediction techniques. However, it is well known that predicting stock prices based only on historical data does not always work very well, especially as an investment tool. There are many ways people have considered to extend these prediction tools such as combining stock price data with other types of data (e.g., the number of times the company is mentioned on Twitter, etc.) or the approach taken in project (**P2**):

https://github.com/jason887/Using-Deep-Learning-Neural-Networks-and-Candlestick-Chart-Representation-to-Predict-Stock-Market

In this task we would like you to take the initiative to do some research and come up with an idea to extend our project. You will need to discuss with your project leader to obtain their approval before proceeding to implement your extension.

Your tasks:

1. Research potential approaches for predicting companies' stock prices/trends.
2. Choose one approach and get your project leader's approval before proceeding to implement your idea. Note that your selected approach/idea does not have to be a new one, it can be something that has been described in some online resources or reported in an academic article and you only need to implement it.
3. Upload your Task 7 Report (as a PDF file) to the project Wiki before the deadline and email your project leader to notify that it is ready for viewing and feedback.

Your Task 7 Report will contain the following details:

- Summary of the research you have done to explore potential approaches for predicting companies' stock prices/trends.
- Summary of the implementation you have done to realise your selected idea and the evaluation results you have obtained when assessing the performance of the selected idea/implementation.

Due date: 11:59pm Sunday 29 October 2023

Assessment Criteria:
The extension you perform can be in either of the following categories:
1. **Simple extension**: If the extension you choose has been documented and implemented elsewhere (such as **P2**) then your task is simple as you only need to learn from an existing codebase and make appropriate modification/integration to **v0.6**. You can get up to 10 marks for successfully completing the **Simple Extension** for Task B.7.
2. **Comprehensive extension and Independent Research**: If the extension you choose has not been implemented elsewhere (even though the idea/algorithm can be reported in an academic article) then your task is more advanced as you need to do your own implementation to extend **v0.6**. You can get up to 30 marks for successfully completing the **Comprehensive extension and Independent Research** for Task B.7.

While working on Task B.7, you must meet with your project leader weekly, especially if you would like to demonstrate to your project leader that your research belongs to Category 2 (**Comprehensive extension and Independent Research**).