

Case Study – Stock Market Prediction

DS 4002 – Spring 2024 - Instructors: Mohammad Murad

Submission format:

- **GitHub Link**
- **PDF or PPT**

Individual Assignment

General Description: Present your findings to your team lead, as well as the GitHub Link

Preparatory Assignments – General programming skills, as well as an understanding of stock prices and AI markets

Why am I doing this? The goal of this assignment is to allow you to utilize your skills to provide a real coding solution to a problem that you can potentially see in real world applications. It takes the skills you've been learning and gives you the opportunity to actually apply them. In addition to this, you are able to conduct your research and report your findings in a succinct manner to generate actionable insights.

- Course Learning Objective: understand the application of AI-modeling in time series data
- Course Learning Objective: prepare findings for presentation

What am I going to do? Produce a coding solution and presentation for your Team Lead as a data scientist for the purpose of understanding the impact of AI research and investments on stock prices. This will include a GitHub repository containing your data and code solutions, in addition to a presentation that will be presented to your team lead. Please feel free to utilize graphs and figures wherever you see fit to communicate your findings.

Deliverables include:

- GitHub Repository containing your data, code, as well as any other data explorations you see fit
- PDF or PPT presentation to communicate your findings

Tips for success:

- Study the topic of AI markets and identify companies that are worth researching
- Study basics of stock pricing (Open, Close, Volume etc)

How will I know I have Succeeded? You will meet expectations when you follow the rubric below

Github Repository	<ul style="list-style-type: none">● Goal: Produce a repository that contains the code, data, and anything else needed for your project● At the minimum, it should contain:<ul style="list-style-type: none">○ README.md - list the contents of your repository in an easily navigable way. Include the software and technology you used, as well as a map of your documentation.○ DATA folder - all the data for your project should be in this folder○ SCRIPTS folder - all your source code, for data acquisition, analysis, and your model should be contained here○ OUTPUT folder - all output generated by your project should be here
Presentation	<ul style="list-style-type: none">● Goal: produce a presentation for your team lead that includes the following:<ul style="list-style-type: none">○ Title & Outline○ Context & Modeling Approach○ Data Acquisition/Explanation○ Potential Bias○ Results/Conclusions○ Next Steps● Assume the team lead knows nothing about the AI markets and is an outsider to stock markets and data modeling techniques