Case Study Rubric – Stock Price Prediction with Linear Regression

Due: See Canvas
Submission format: upload pdf and GitHub repository link to Canvas

General Description: Submit to Canvas your pdf and link to repository

Preparatory Assignments: None

Why am I doing this? The goal of this assignment is to demonstrate how to translate quantitative finance concepts into a functioning data science pipeline using Python, basic regression, and financial data. This project mimics how quant teams in a professional environment build and evaluate models before pursuing more advanced techniques or involving money.

What am I going to do? You will use your data science skills and conceptual understanding to submit a deliverable to end an independent case study. This will include documentation of your methodology, any references, and a reproducible script that others can follow. Below, you will find what the content of your deliverable should be:

- A 1-page PDF summarizing results including reasoning behind model performance
- A GitHub repository containing the code leading to the prediction graphs and evaluation metrics,

How will I know that I have succeeded? When you meet the requirements in the rubric below

- Section 1: Software and Platform
- Section 2: Project Structure Map
- Section 3: Reproduction Instructions

Spec Categories	Details

Formatting	Your Repository Must Include;
	• README.md
	• LICENSE.md
	• SCRIPTS/
	  ○ Scripts should be ordered and documented
	• DATA/
	  ○ CSV files or instructions to download data if too large.
	• OUTPUT/
	  ○ Prediction plots, R^2 scores, tables, etc.

README.md	• Section 1: Software and Platform. • Section 2: Project Structure Map. • Section 3: Reproduction Instructions.
LICENSE.md	• Use MIT License template provided by GitHub
SCRIPTS/	• Organize scripts in execution order. • Scripts include header comments. • Inline comments when necessary.
DATA/	• Files used for the project, preferably csv files. • If data is too large, including a .txt file with a data explanation.
OUTPUT/	• Include all graphs, figures, and summary tables used. • Use descriptive filenames.
Written Document	• Explain results. • If results are unexpected or not able to be modeled well, explain why. • Look into how to improve the model.
References	• Citation should be in IEEE format at the end of your PDF write up only if not given in the materials.