CS Stock Predictions Rubric

DS 4002 – Spring 2023 - Professor Alonzi
Due: March 10, noon
Submission format: Link to github repository via Canvas

Individual Assignment

General Description: Submit a link to your github repository containing all components of your case study organized by folder and described in the README.md file.

Preparatory Assignments—class lectures and the aforementioned resources in the hook document containing contextual information on AMC stock and background on statistical forecasting.

Why am I doing this? Use this case study experience to explore what it looks like to use your data science skills in the real world. Enjoy the discomfort of not having every step of your analysis outlined for you, and lean into making choices that you think are best. Do not be afraid to try something and fail! Ask a lot of questions, and explore several models before deciding on one. Know the *why* behind the analytical decisions you make, and ensure that at the end of your process, your deliverable is something you can explain in layman's terms. The best data scientists are those who can get in the weeds to answer a question, but they don't get stuck in the weeds. Once they arrive at a conclusion or recommendation, they are able to communicate their findings simply and concisely.

- Course Learning Objective: Time-Series forecasting models
- Course Learning Objective: communicating findings

What am I going to do? First read the hook document and put yourself in the shoes of analyst described. Then read the accompanying background and context articles to feel adequately prepared to begin working the case. Before you begin analyzing stock data and crunching numbers, take a pause and allow yourself to be creative for a moment. Ask yourself what kind of result you want to deliver, and if you have a gut feeling about which forecasting method to try first. You should then develop a timeline for yourself and set small, frequent goals as your progress towards your deliverable. Once you decide on a model you want to start exploring, conduct further research and learn what data cleaning, packages, and code will be required to execute the model. If your model does not function or forecast correctly, research *why* that might be happening, and decide if you can fix the model you are working with, or should attempt a different approach. Once your model is producing results, decide how you can communicate a *story* about your data, model, results, and recommendation.

Tips for success:

- Give yourself a timeline, and stick to it the best you can.
- When you run into questions, work smarter, not harder. There are ample resources around you (internet, Professor Alonzi, your TA & classmates)
- Stay engaged. Remember to keep putting yourself into the shoes of an analyst who needs to develop a recommendation for their supervisor in order to benefit their client. Let that be your motivation!

How will I know I have succeeded? You will meet expectations on CS Stock Predictions Rubric when you follow the criteria in the rubric below.

Spec Category	Spec Details

Formatting	• Repository—a github repo containing all of the following contents:
	  ○ README.md
	  ○ SRC
	  ○ DATA
	  ○ RECOMMENDATION
	  ○ FIGURES
	  ○ LICENSE
	• All documents should be submitted in PDF format when possible

README.md	• Goal: provides high-level background and context for the case study, as well as an introduction to the github repo and where different components of the study can be found • Use appropriate headings and subheads • Include your final recommendation and one of your figures that best communicates your findings • Include all references in IEEE format
SRC	• Goal: Include all code used to deploy your model
DATA	• Goal: include the cleaned and final data set • DATA.md should include a data dictionary detailing the column, data type, and definition
RECOMMENDATION	• Goal: Communicate your findings effectively • One powerpoint slide in PDF format with your final recommendation and one graphic that substantiates your conclusion
FIGURES	• Goal: include all relevant figures & images • A FIGURES.md document should contain necessary descriptions for each figure
LICENSE	• Goal: explain to readers the terms under which they may use and share your work • The MIT license is the default recommendation

Acknowledgements: Thanks to Professor Alonzi for this rubric structure which was originally pulled from Streifer & Palmer (2020).