Document for my CS 6452 project

Stock price prediction based on different ML models

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My project features: collect data from API. Using 4 models (Arima, LSTM, KNN and linear regression) to predict future stock price and visualize the result. The results can be saved as a image and there is a GUI implemented for display.

My project submission consist of 3 parts: **prediction folder, 5 .ipynb coding files and 4 .csv data file.**

1. **Prediction folder** contains images made offline based on a small dataset collected with 4 models.
2. **.ipynb files** describe how I collect and process data, how I test different models and my final modeling, visualization and GUI implementation.
3. **.csv files** contain all the data I collected from API.

The part where diverged from the original work plan and functions to be improved:

1. I find it hard to make my prediction become real-time. So I made it offline (display result which has been predicted already).
2. The GUI is too simple. To improve, I may turn to d3.js for better effect.
3. My models are not reliable, which is hard to improve. I have read some papers about application of ML in stock price prediction and methods found are quite complicated but also not precise enough.

Thank you for grading and teaching this semester.