Stockly

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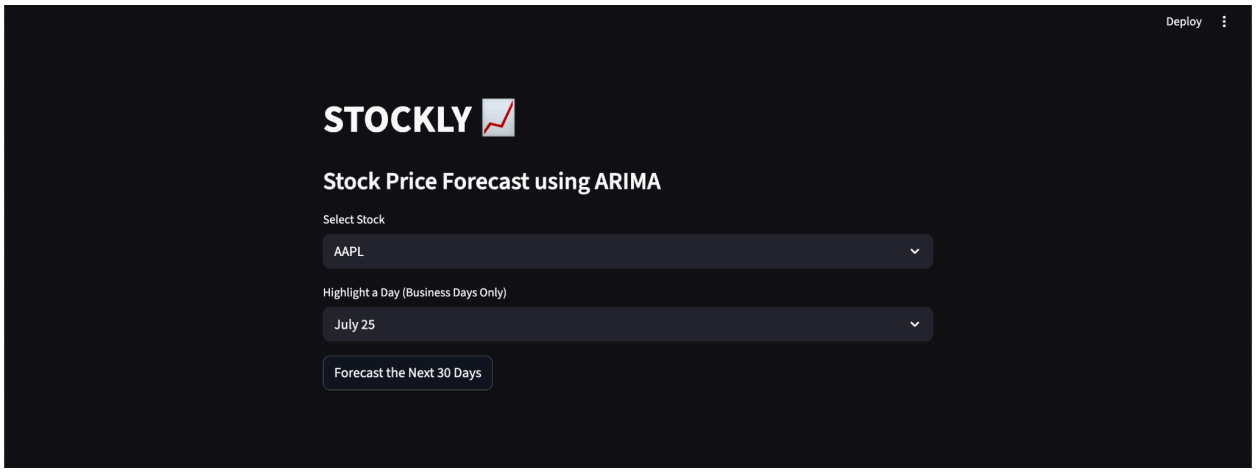
📅 **Date Created:** July 07, 2025
💻 **Programming Language(s) Used:** Python, Streamlit
⚙️ **Tools and Technologies Used**: Streamlit, Scikit-Learn, Numpy, Pandas, Statsmodel, DateTime, PIL, Matplotlib

📄**Project Description**: An interactive forecasting tool that utilizes historical stock price data to model and predict future trends. The system will apply a time series forecasting technique, which is ARIMA (Autoregressive Integrated Moving Average), to analyze patterns, visualize stock performance over time, and simulate future price movements. It features a user-friendly interface that allows users to select specific stocks and define custom date ranges for more effective analysis. The machine learning model will analyze past stock data to make predictions. The model will output 30-day predicted stock volatility and trend stability, helping investors make more informed and strategic investment decisions.

***Install additional dependencies upon running*:** (1) python3 -m pip install yfinance (2) python3 -m pip install streamlit

Main

The website has a white background, my laptop is just in dark mode.

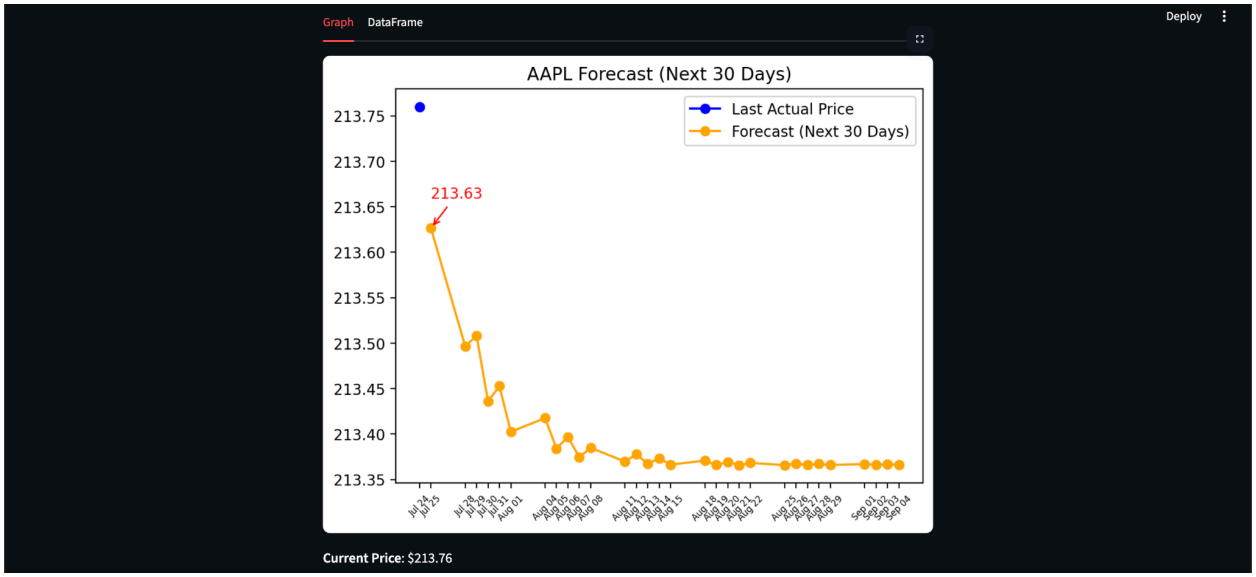


This part allows you to select which stock you want to forecast, as well as highlight the day you want to invest in.

Notes: Stocks operate on business days only!

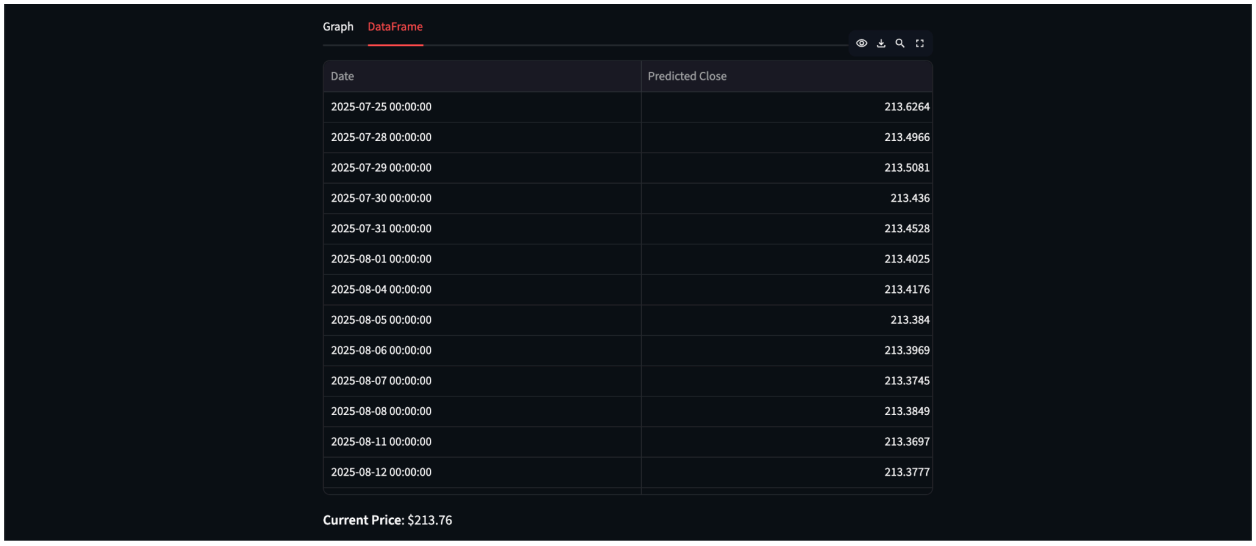
Results Tab

Graph Tab



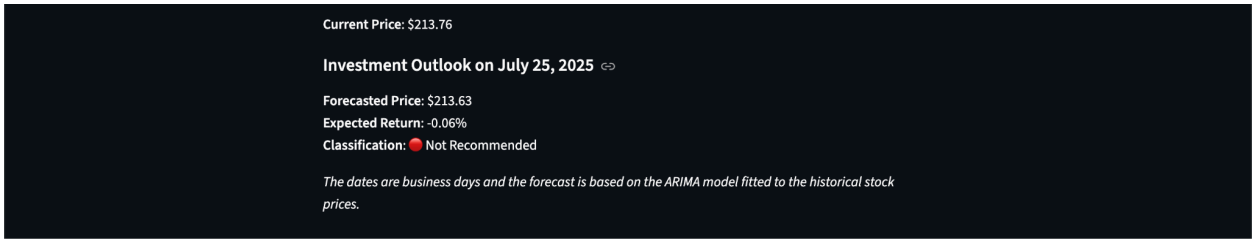
The graph tab contains the visualization of the stock, which is possible with the use of the ARIMA model and the Matplotlib library.

DataFrame Tab



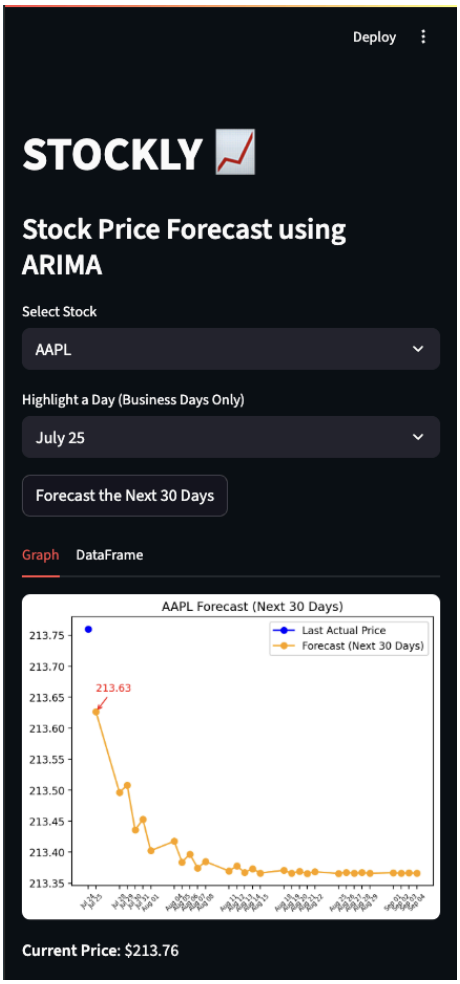
This DataFreme tab, on the other hand, is a more detailed view of the stocks.

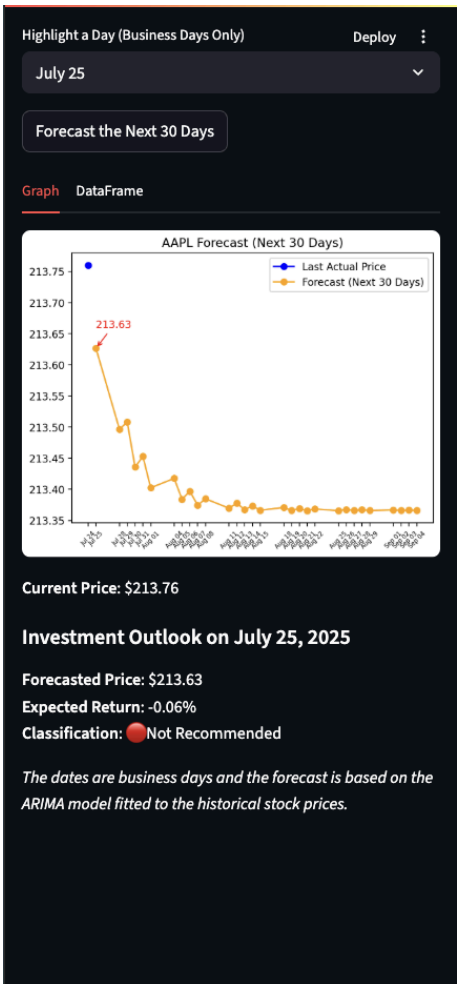
Interpretation and Conclusions Part



The last part of the app is where the 'guide' and stock analysis supervisor go. It shows the expected return, forecasted price, and concludes whether it is recommended to invest or not.

Mobile View





Link to GitHub:
https://github.com/jarelltamonte/stockly/blob/master/Documents/stockly/stockly.py