

Knight Foundation School of Computing and Information Sciences

Fall 2024 Senior Design Project

Stock Predictor

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PROBLEM

With how unpredictable stock market fluctuations occur, this poses a significant challenge for investors and analysts. The absence of personalized user experiences and ways to track stocks hinders the effectiveness of existing solutions, which is something we are addressing with this project. Thus, our project works to combine the predictive power of traditional algorithms along with a user-friendly web interface, which gives users the ability to login and track stock data easily.

TECHNOLOGIES

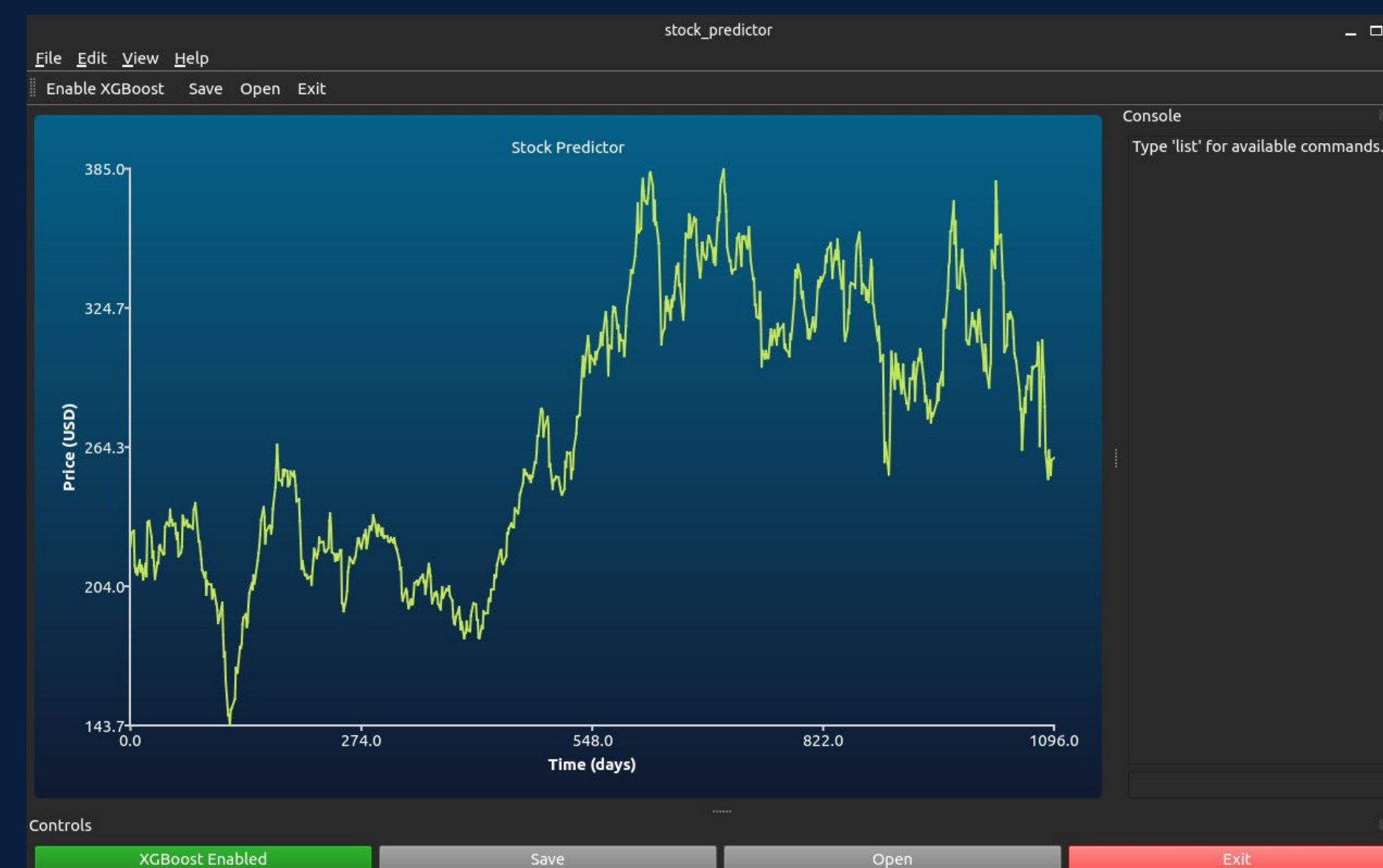
- C++
- Python
- Facebook Prophet
- Qt GUI Framework



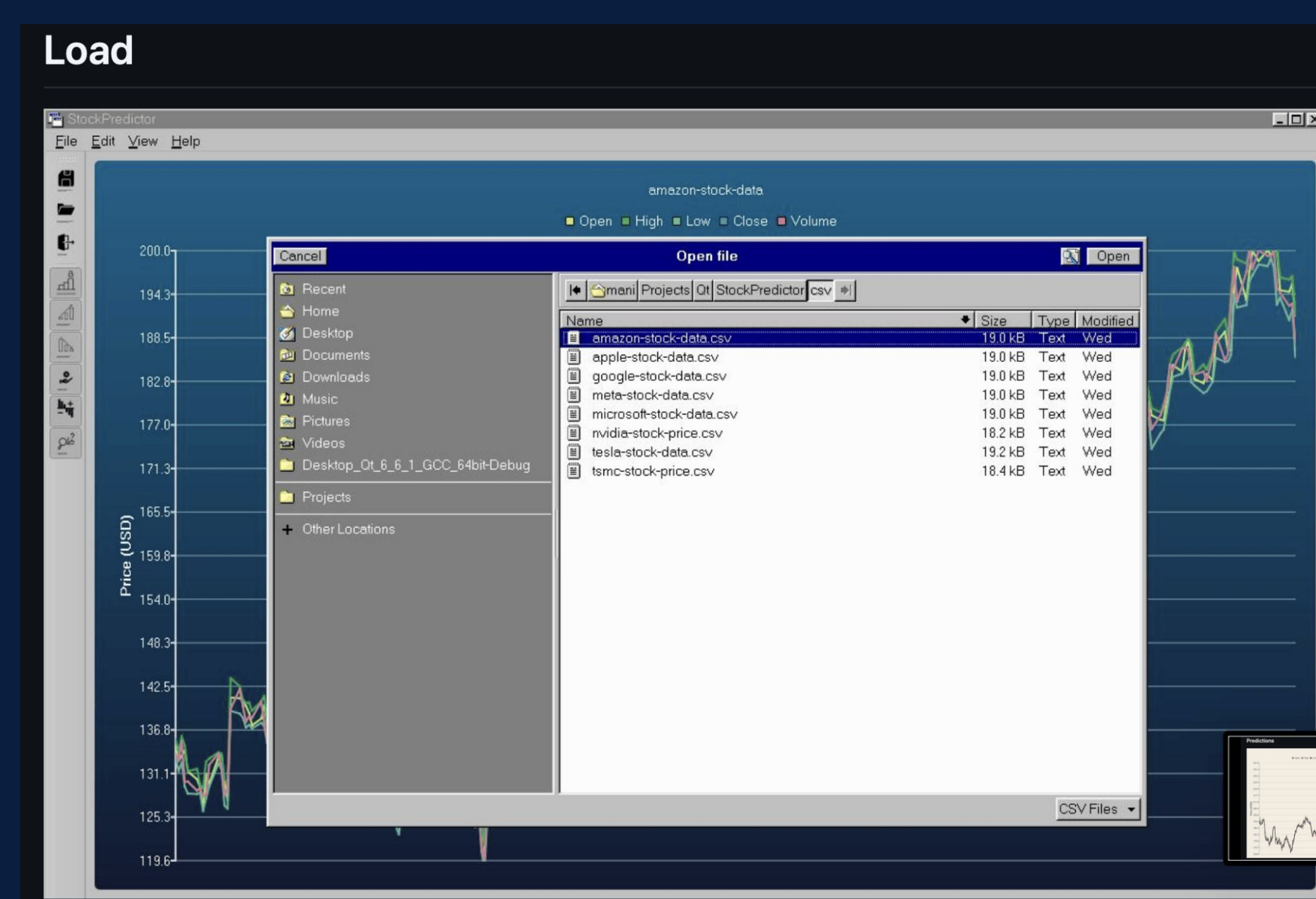
MACHINE LEARNING

The machine learning approach we are using leverages tools like Matplotlib and Pandas. These libraries will analyze historical stock data to make accurate predictions about future values. The algorithm will also generate a CSV file containing the stock's current and past values, allowing users to review historical data and make more informed investment decisions.

STOCK FORECASTING



Our stock prediction app leverages advanced machine learning to provide accurate forecasts of stock prices. It offers personalized recommendations based on user preferences and risk profiles. Social features encourage collaboration among investors.



A Python script forecasts stock trends leveraging the Prophet library, designed for accurate time-series forecasting. The tool processes a CSV file containing stock data columns like 'Date', 'Open', 'High', 'Low', 'Close', 'Adj Close', and 'Volume' to predict trends for a user-specified number of months.

CONCLUSION

As a team we were able to fully comprehend the actual efforts required to deploy a fully executable app into the market. Using the SCRUM development process was an eye opening experience into the professional world and the requirements needed to be met daily while working on large scale apps in teams. The development of the team's chosen application idea has lead us all to understand, we have a lot more to learn even though we have learned a lot in our journey's.

FUTURE WORK

In the future, our stock predictor app could integrate advanced machine learning models, tapping into alternative data sources like social media sentiment and satellite imagery for economic insights. Personalization would refine recommendations based on user feedback, while enhanced visualization tools offer immersive data exploration. Blockchain tech could enable decentralized prediction markets, fostering crowd-sourced insights.