

AI Trading Platform

Adrian, Gabe, Yagiz, and Odi

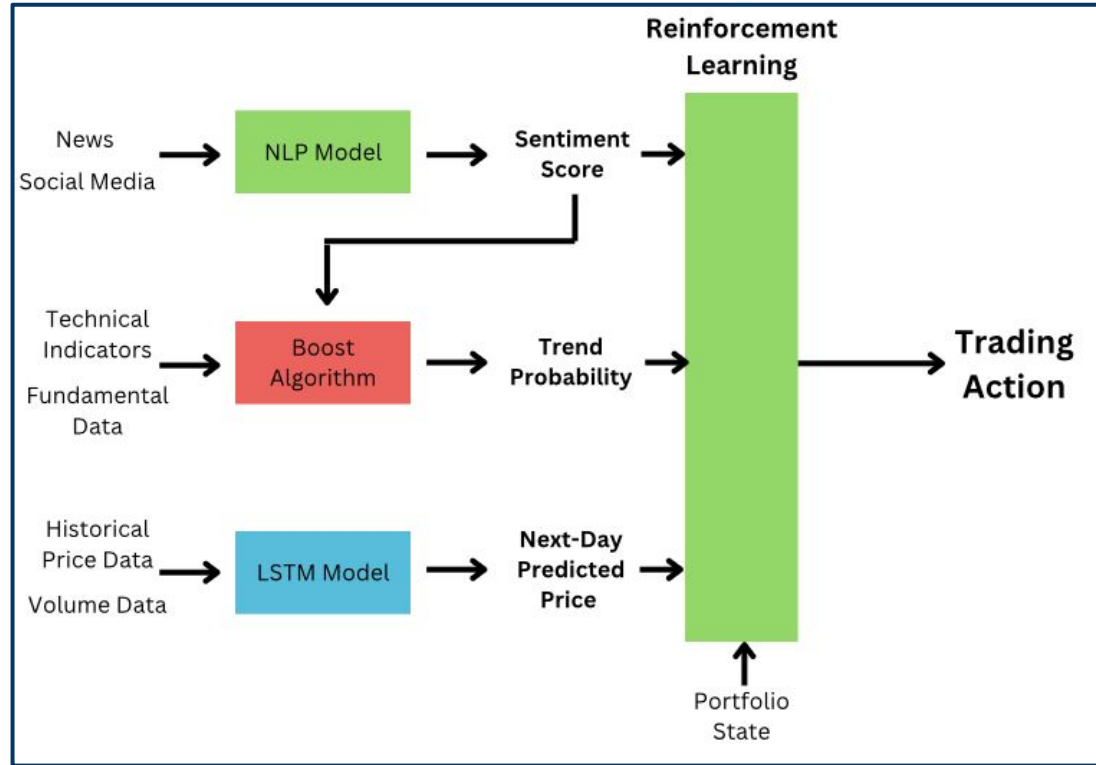
Problem Statement

Investors often **struggle** with **predicting stock price** movements, generating timely trading signals, and optimizing portfolio management, resulting in **suboptimal returns**. We aim to solve this by developing an **automated**, machine learning-based **equity trading system** that simplifies decision-making, accurately forecasts market trends, generates actionable **buy/sell signals**, and optimizes portfolio management to **maximize returns**.

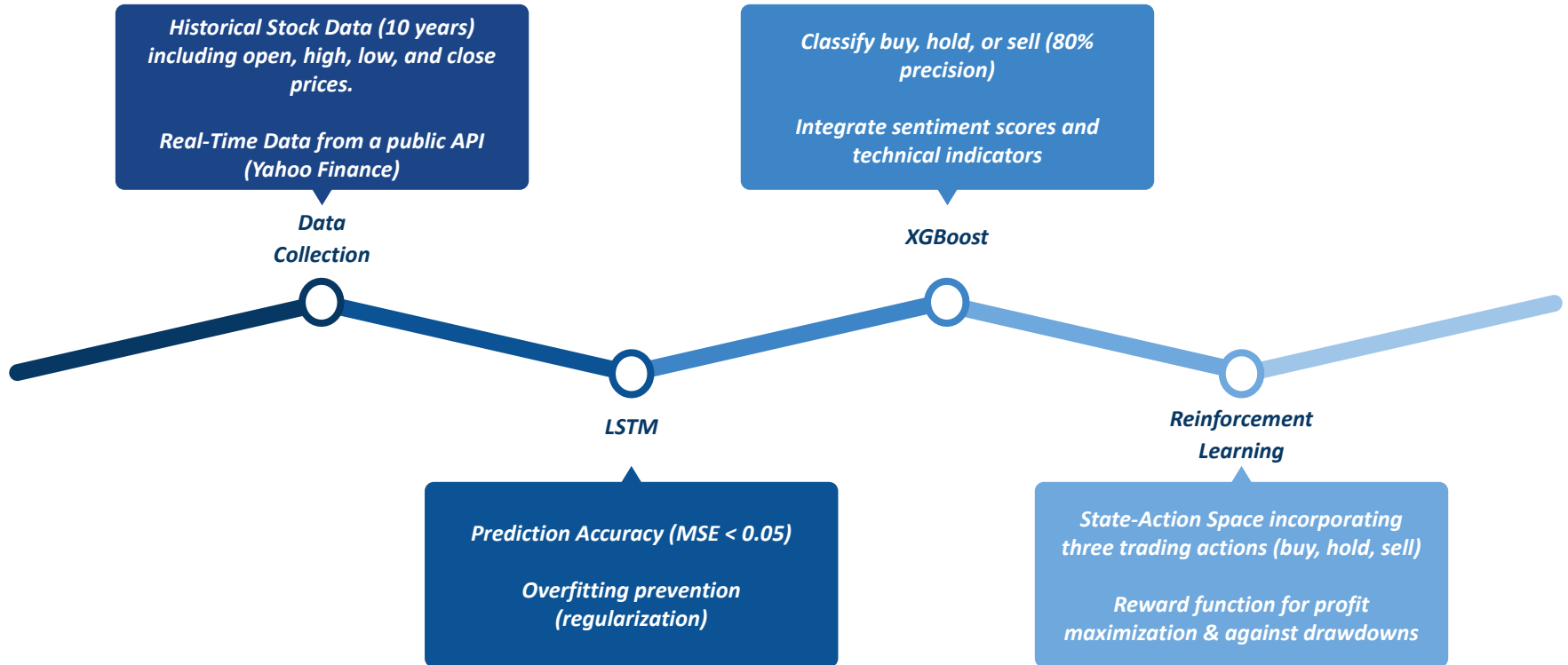
Deliverables

- ★ *Working Prototype: A fully functional **algorithmic trading system***
- ★ *Advanced software trading algorithms utilizing:*
 - *Long Short-Term Memory (**LSTM**) networks*
 - **XGBoost**
 - **Sentiment Analysis** using **Natural Language Processing**
 - **Reinforcement Learning**
- ★ *Intermediate Deliverables:*
 - *Historical market data analysis **reports***
 - *Trading **strategies***
 - **Web Application**

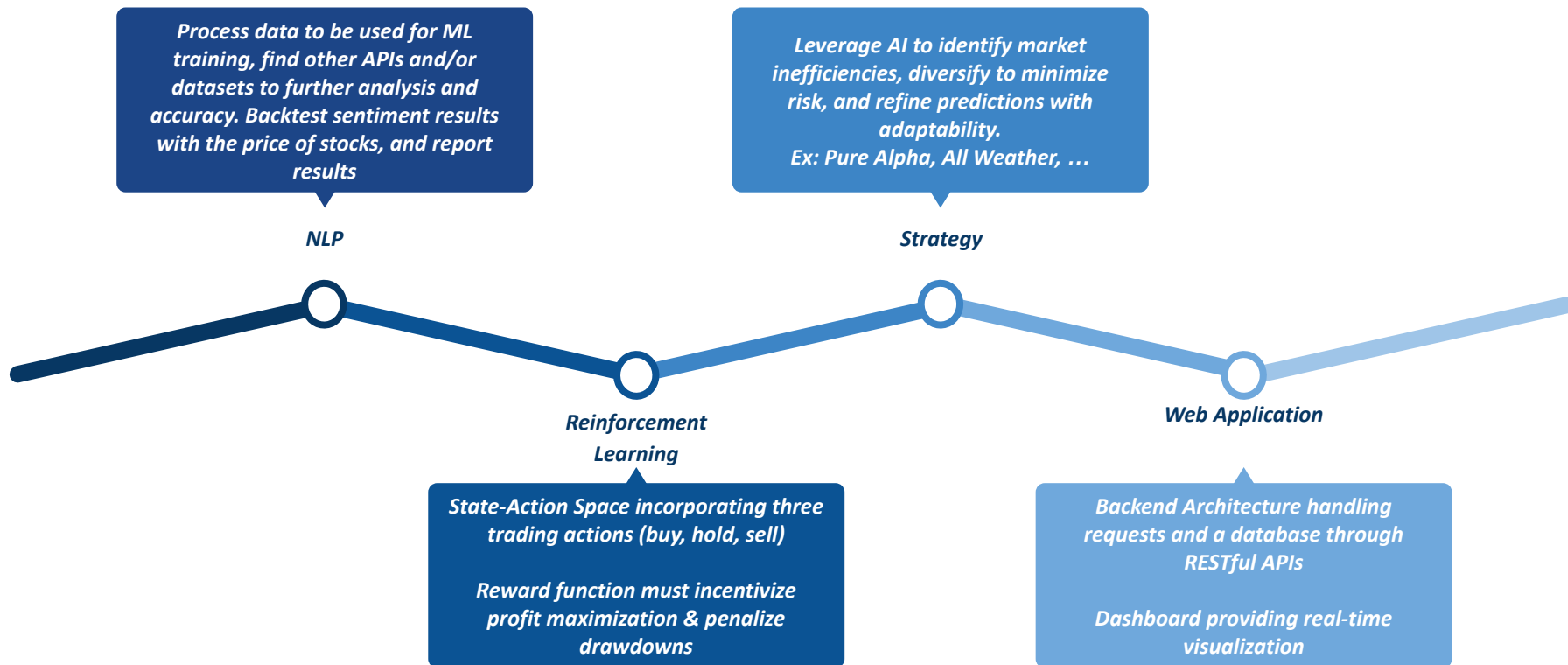
AI Trading Model Architecture



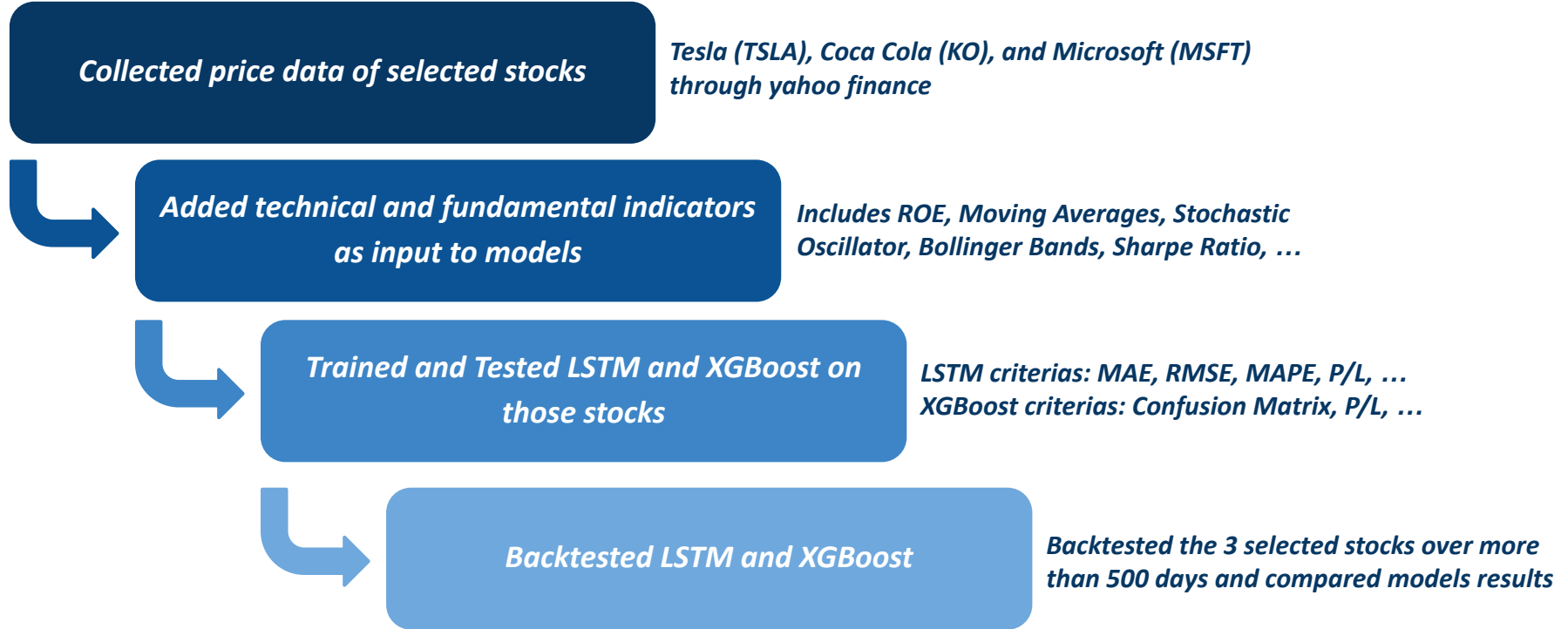
Requirements Fulfilled



Requirements Left

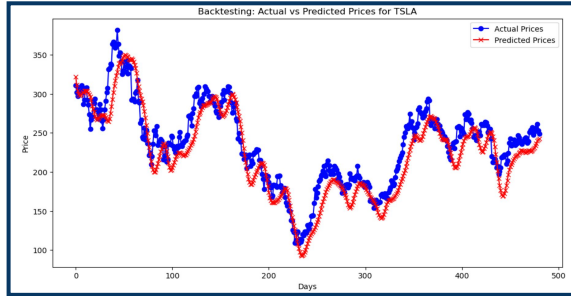


Prototype

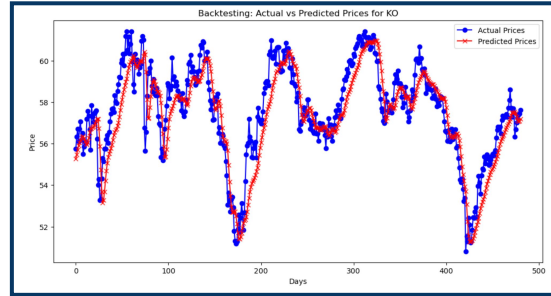


LSTM Backtesting Results

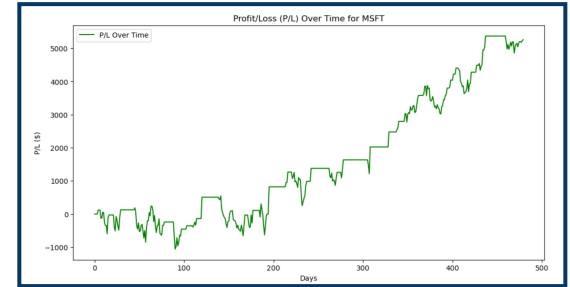
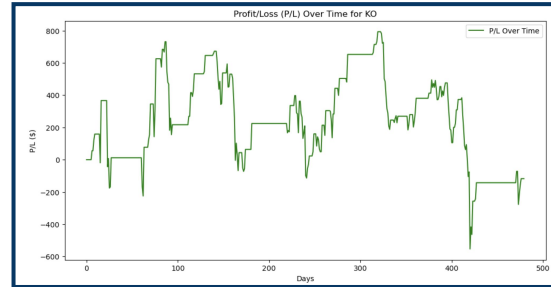
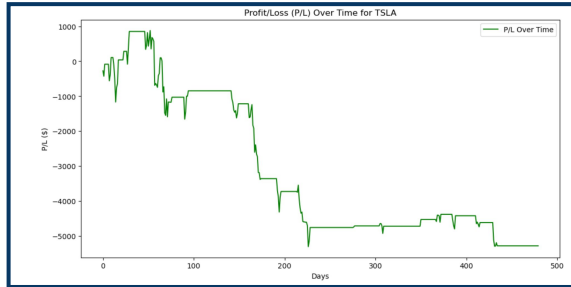
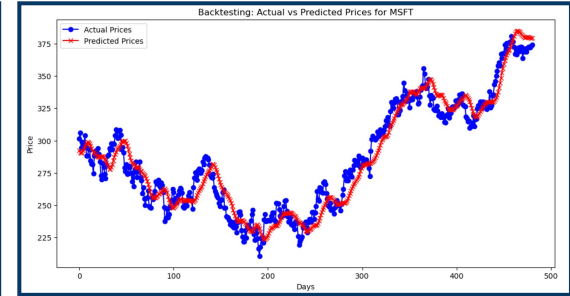
Tesla



Coca Cola

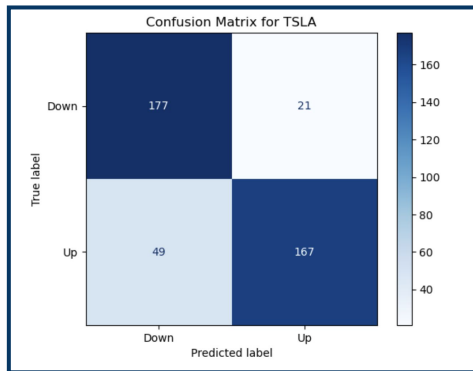


Microsoft

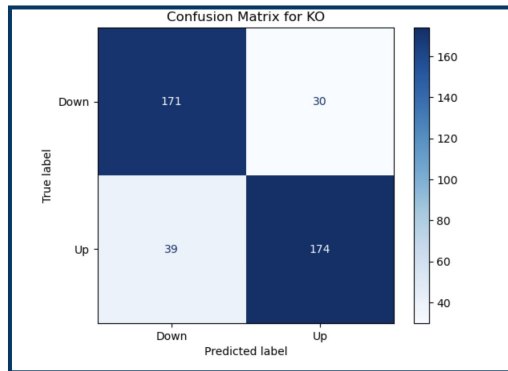


XGBoost Backtesting Results

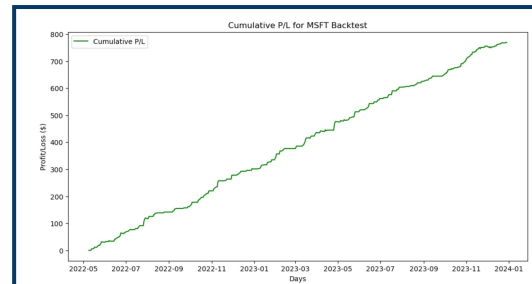
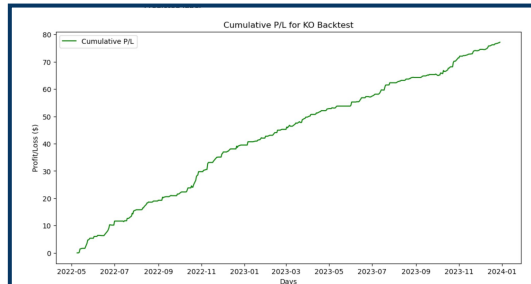
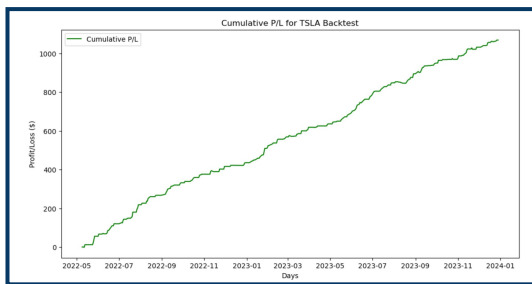
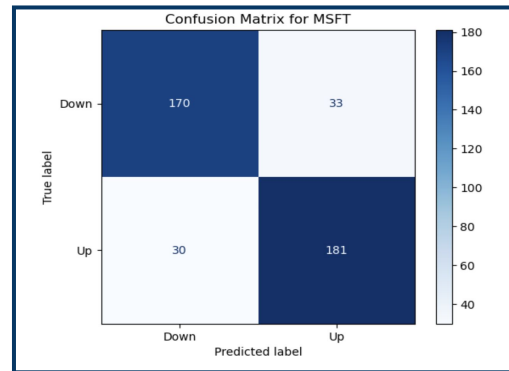
Tesla

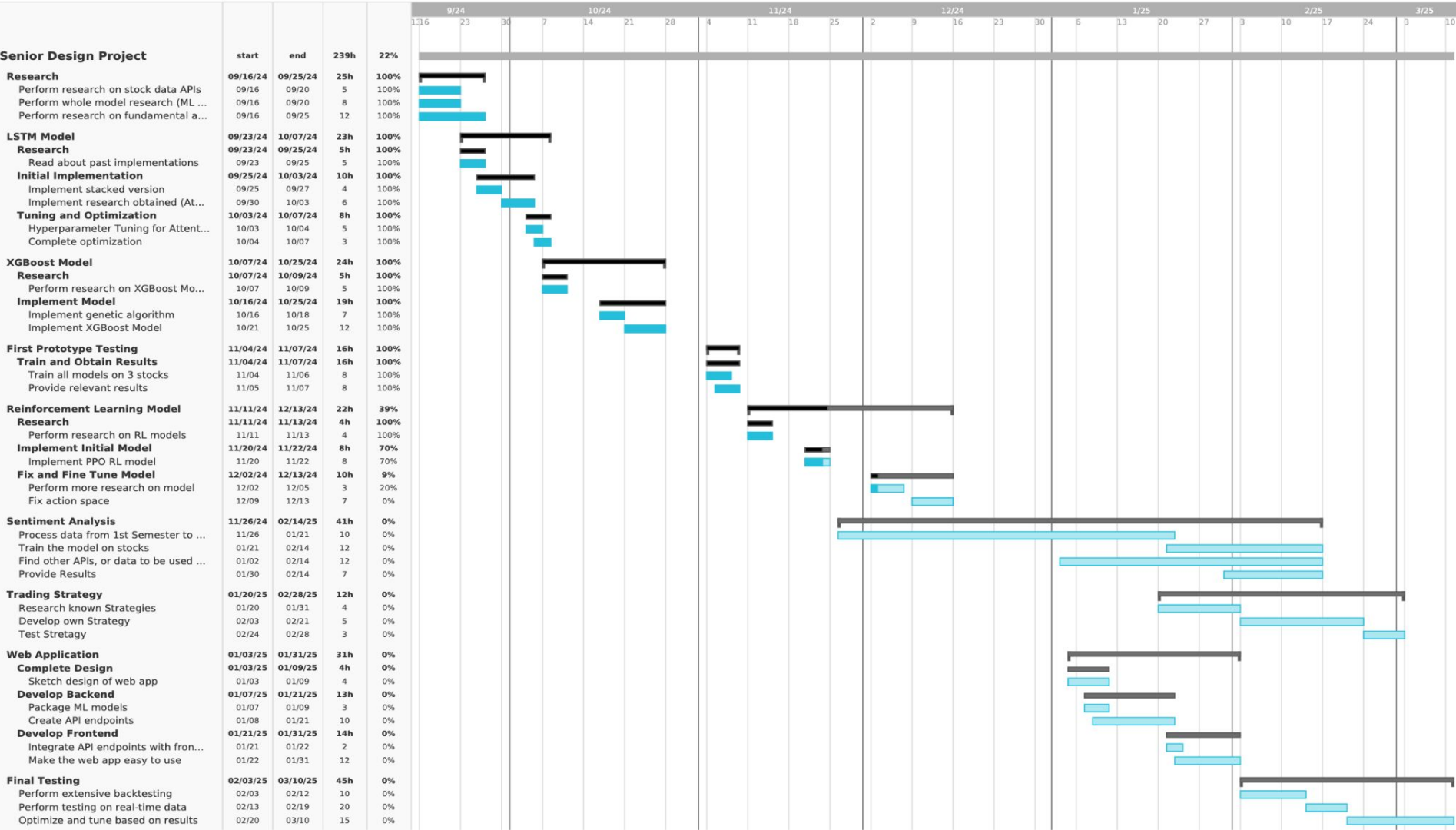


Coca Cola



Microsoft





Conclusion

- ★ *Developed and fully tested LSTM & XGBoost models*
 - *Sufficient results*
- ★ *Finishing development of NLP & Reinforcement Learning Model*
 - *Test results of both*
- ★ *Begin development of web application*
 - *Finish development hosted in the cloud*
 - *Fully test web application while developing*
- ★ *Design trading strategy*
 - *Evaluate strategy with backtesting and live simulation trading*
- ★ *Compare full trading results against firms*