

MS 499: Development of Predictive Models for Stock Performance

Presentation Proposal

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Abstract

Our work till now explores financial data analysis and stock price prediction. We built a Python tool to aggregate financial data (S&P 500) and generate reports for trend visualization. Additionally, a machine learning model using historical financial reports (balance sheets & income statements) was developed to predict stock prices.

Building on our financial data collection and analysis strengths, we plan to explore advanced machine learning models, for example LSTMS. Additionally, we are looking to incorporate alternative data sources like news sentiment analysis or social media trends, based on the work of our peer researchers, which could enhance our base model's prediction accuracy.

To improve our algorithm, we are looking forward to considering in-depth feature extraction and analyzing historical data to identify features with the strongest correlation to stock price movement. Feature selection techniques would help focus the model on the most relevant factors.