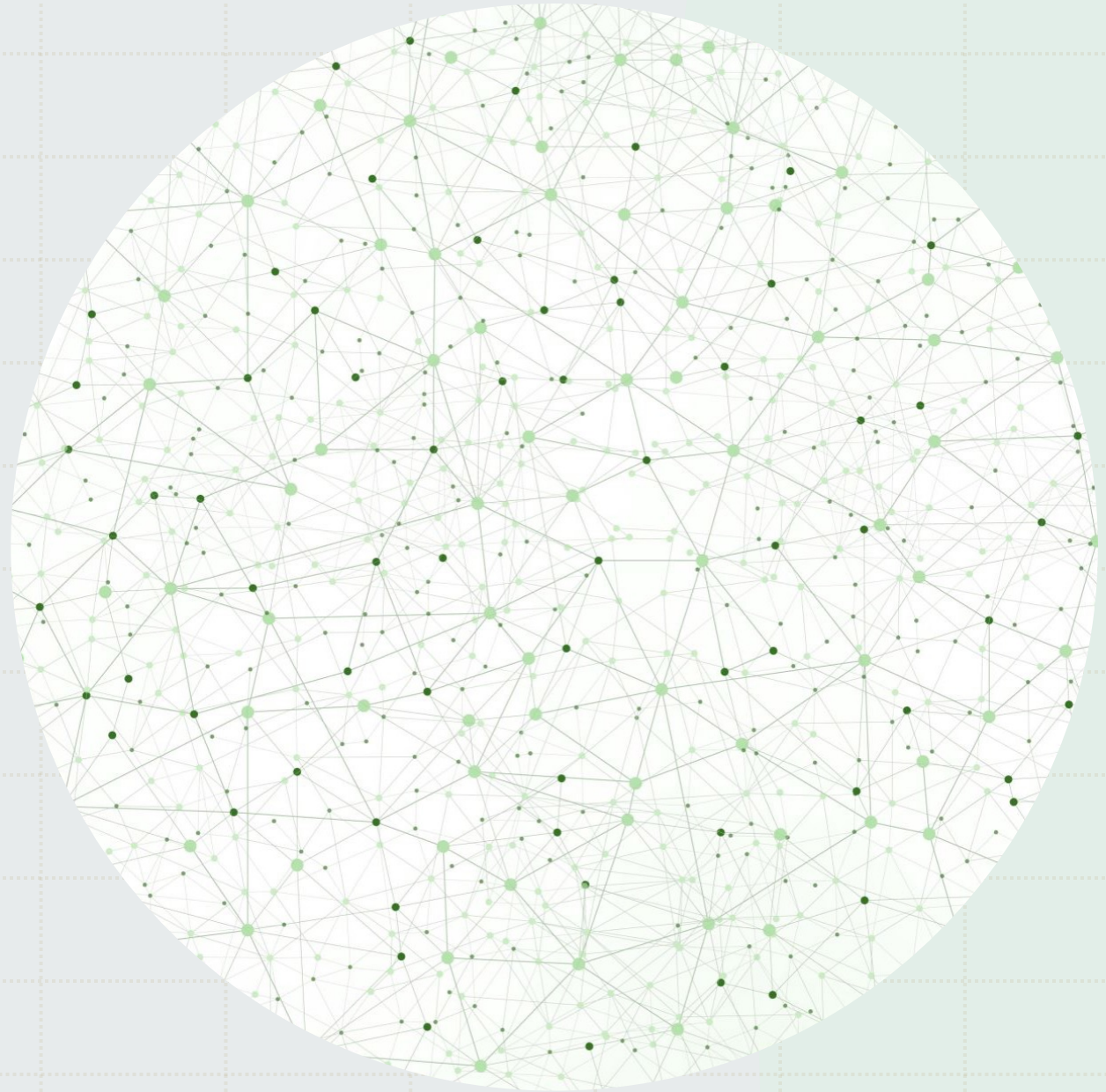


Stock Market Analysis

By Justin Giovatto



Introduction

- Main Business Problem:
 - Invest in three Tech, three Healthcare, and one Crypto
- Primary Project Goal:
 - Maximize Portfolio investments while minimizing risk over the next 6 month period.



Methods

- Data will be used to create time series models in order to forecast stock prices
- Models will then be analyzed according to forecasted cumulative returns
- Will also check stocks' volatility & P/E ratios (secondary evaluation metrics)
- Portfolio recommendations will then be presented



Dataset

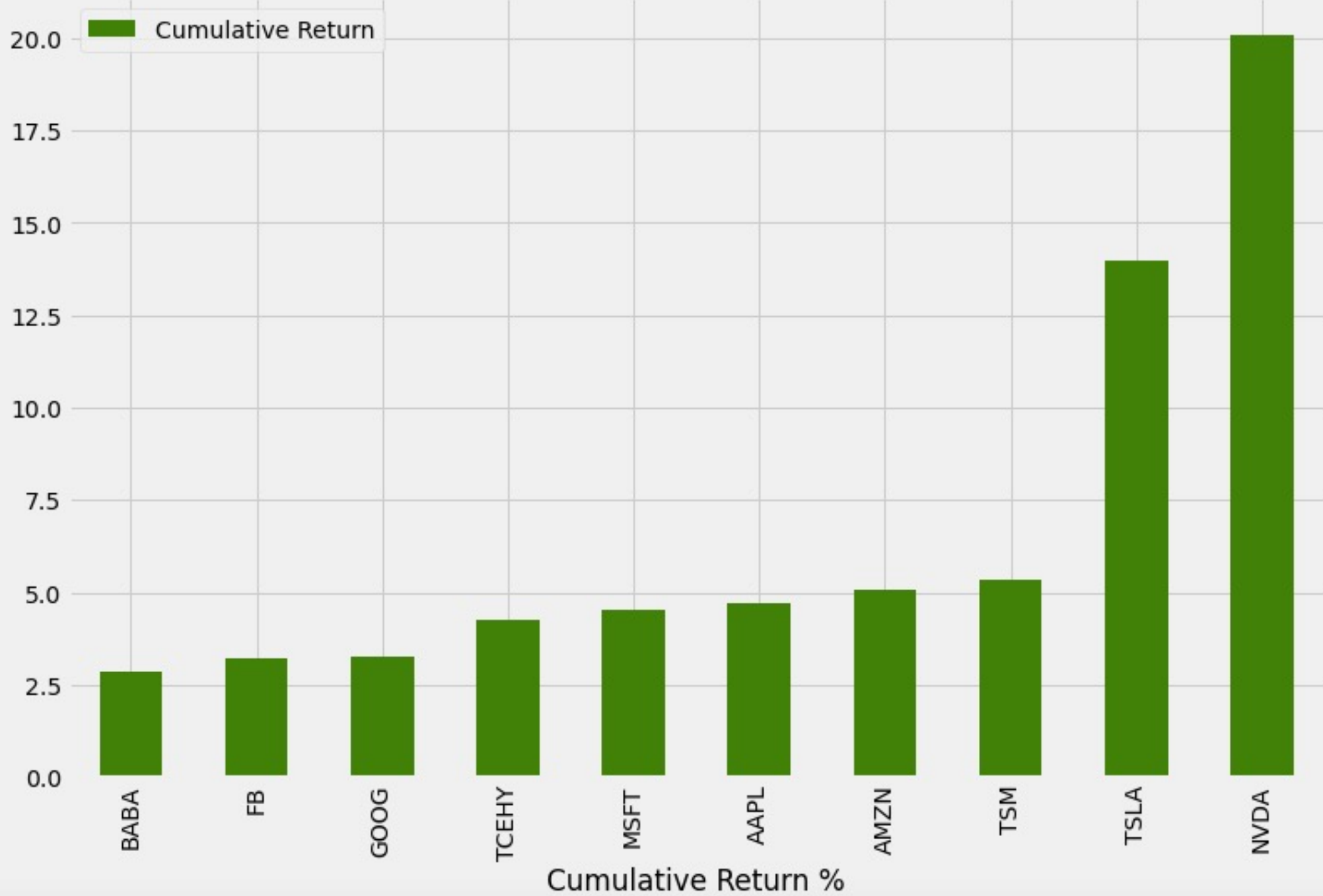
- Stock Data from Yahoo API
- 1/1/16 - 6/1/21
- Top 10 Tech
- Top 10 Healthcare
- Top 5 Crypto
- Stock Features



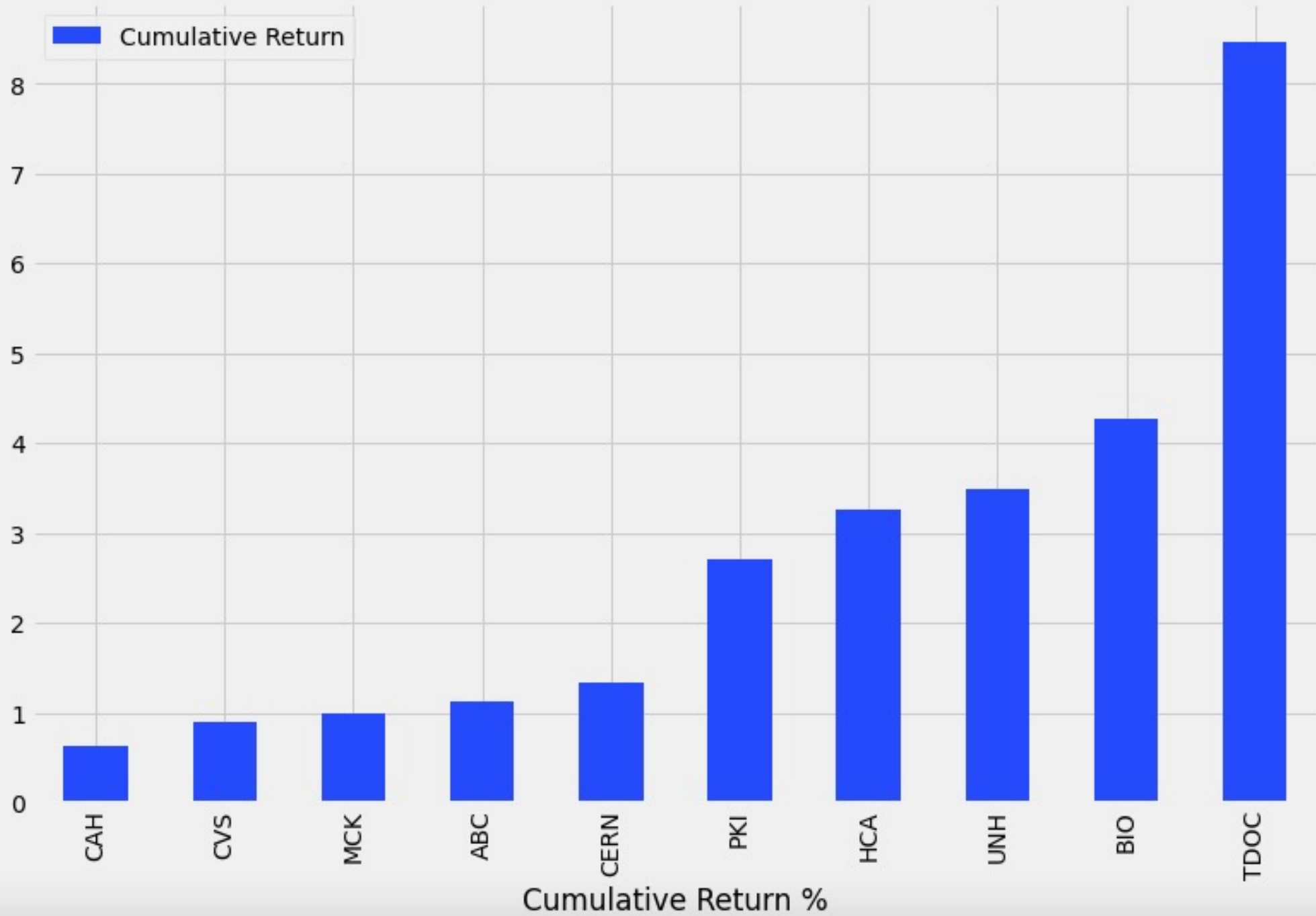


Past Cumulative Returns Analysis

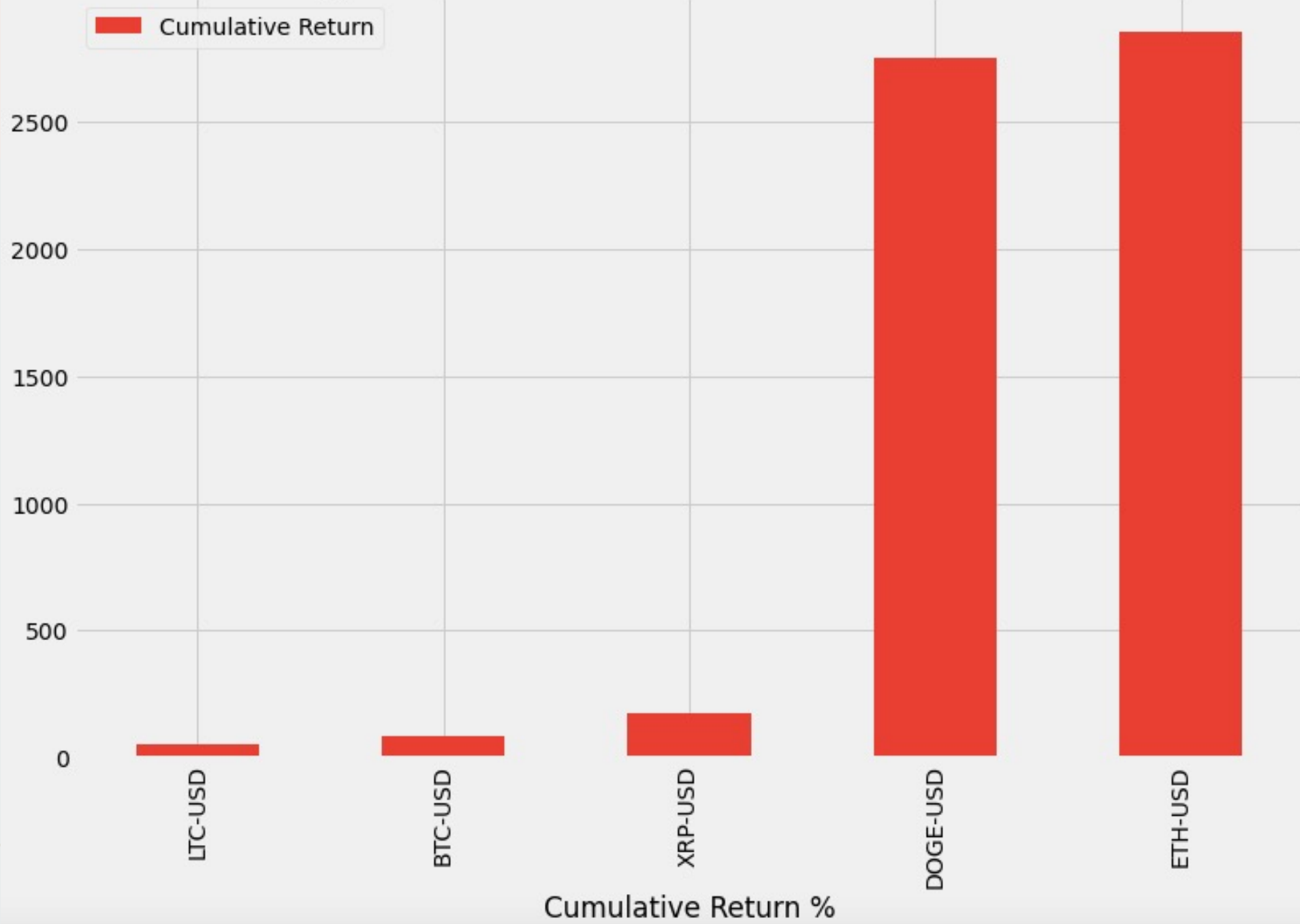
Tech Stock Cumulative Returns 1/1/16 - 6/1/21



Healthcare Stock Cumulative Returns 1/1/16 - 6/1/21



Crypto Stock Cumulative Returns 1/1/16 - 6/1/21



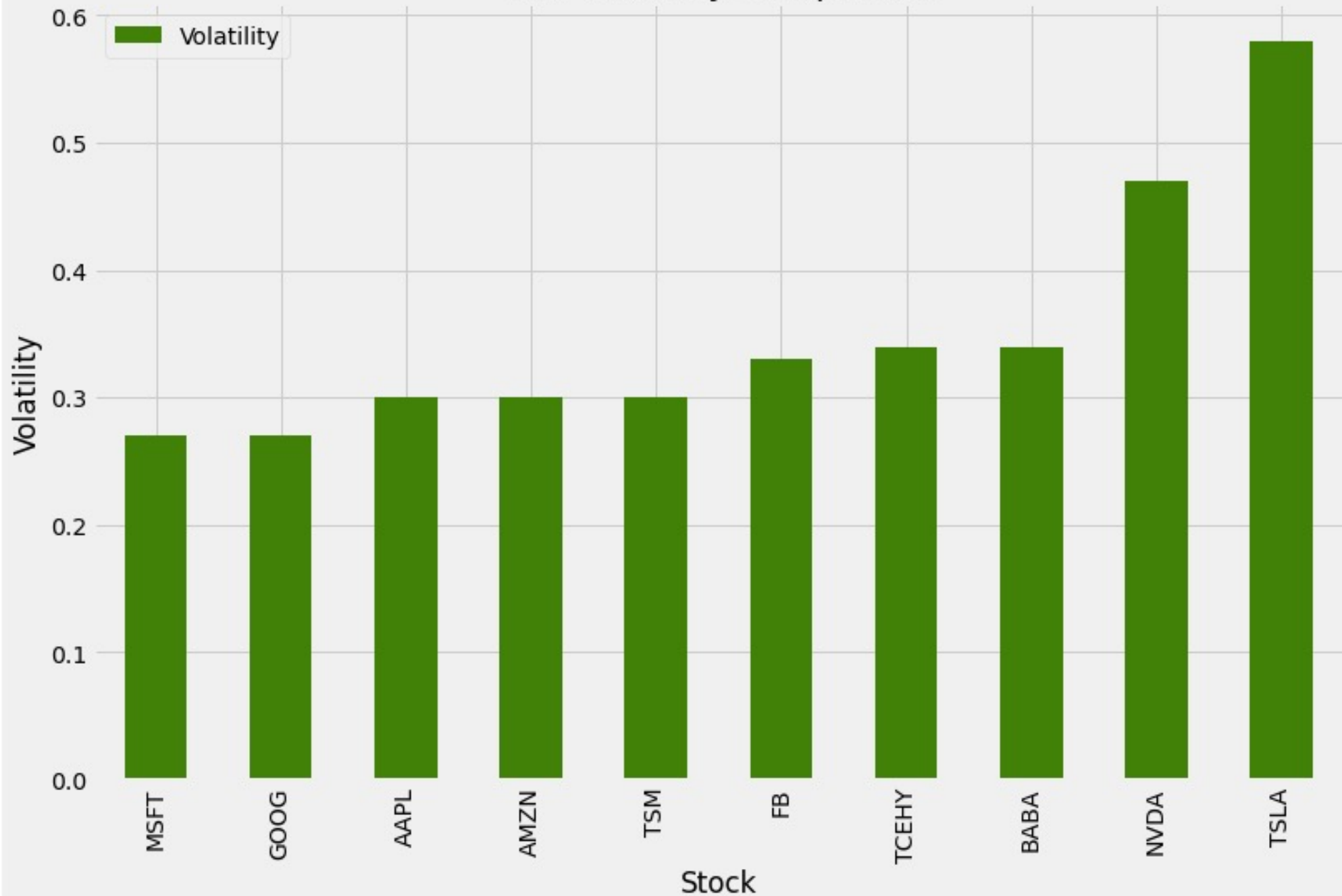
Sector Cumulative Returns Comparison 1/16 - 6/21



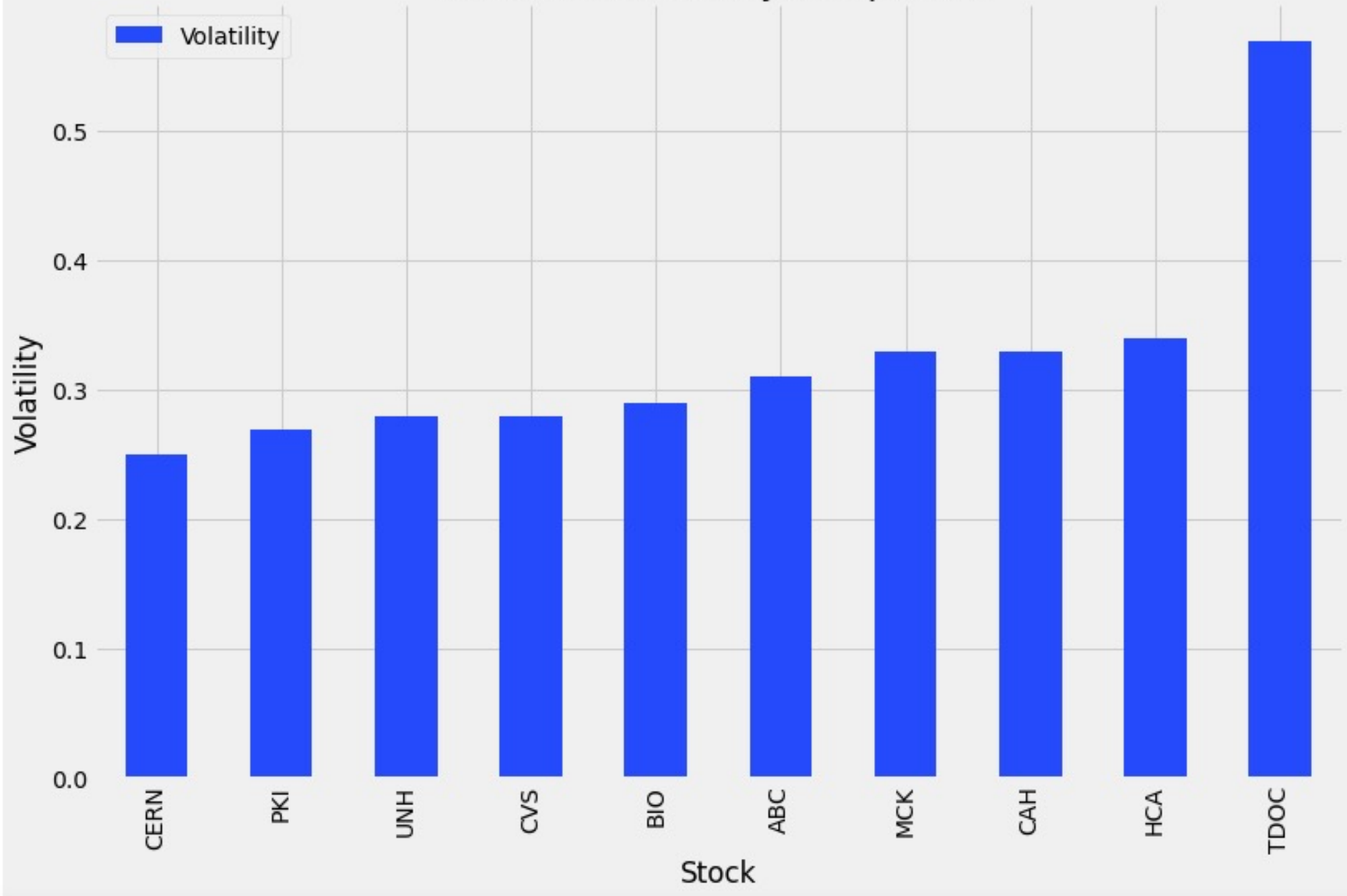


Volatility Analysis

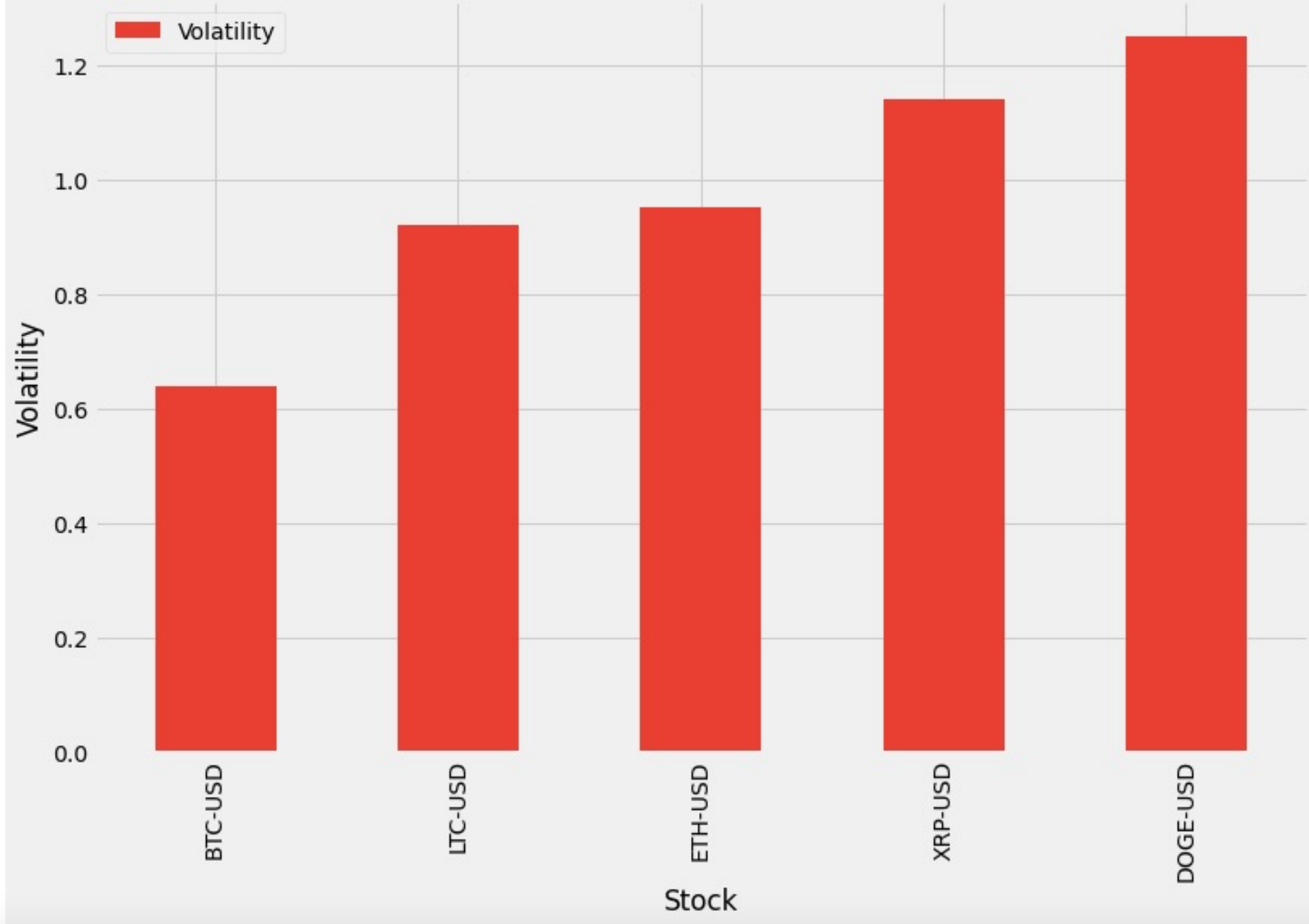
Tech Volatility Comparison



Healthcare Volatility Comparison



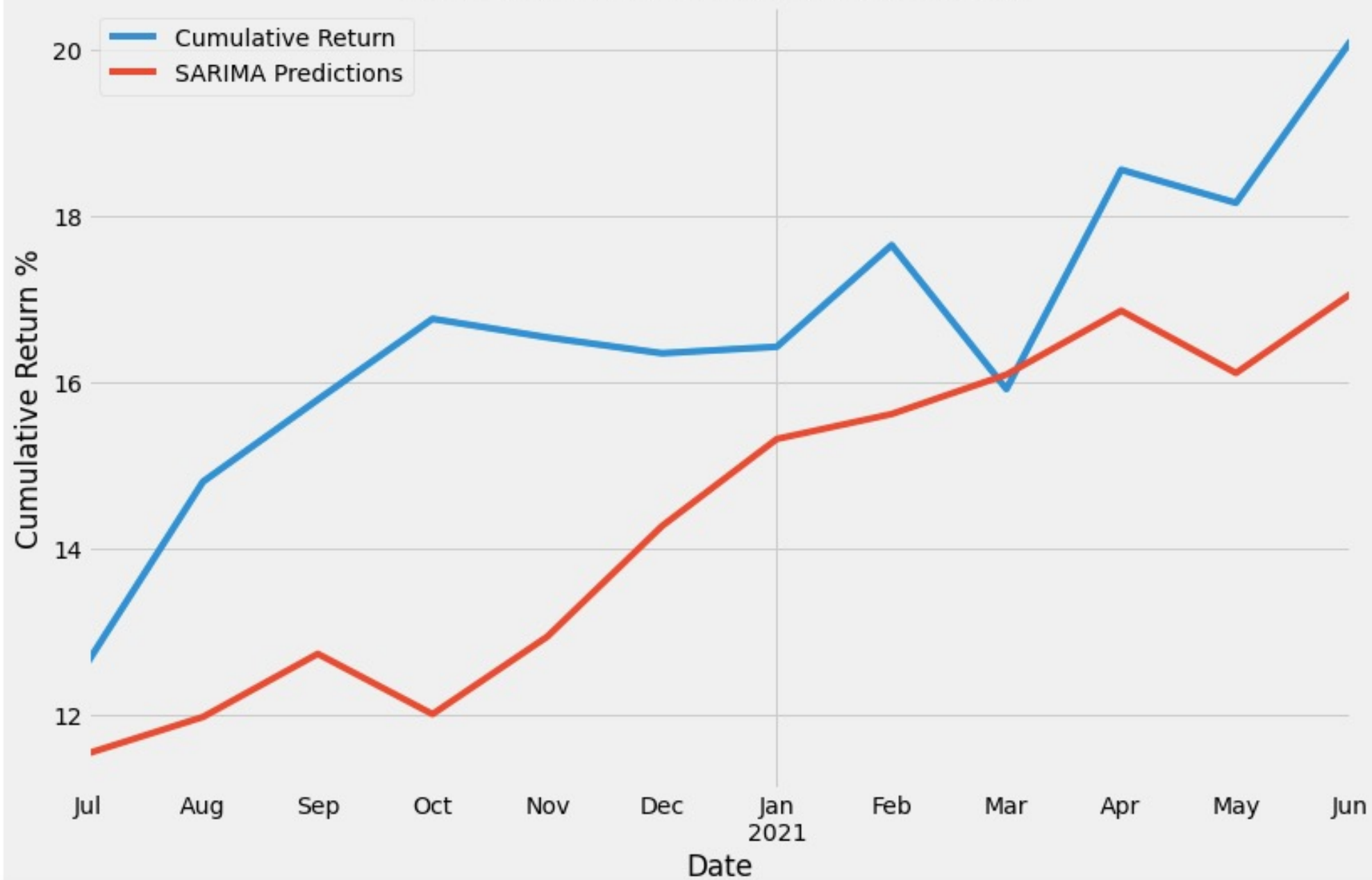
Crypto Volatility Comparison





SARIMA Models

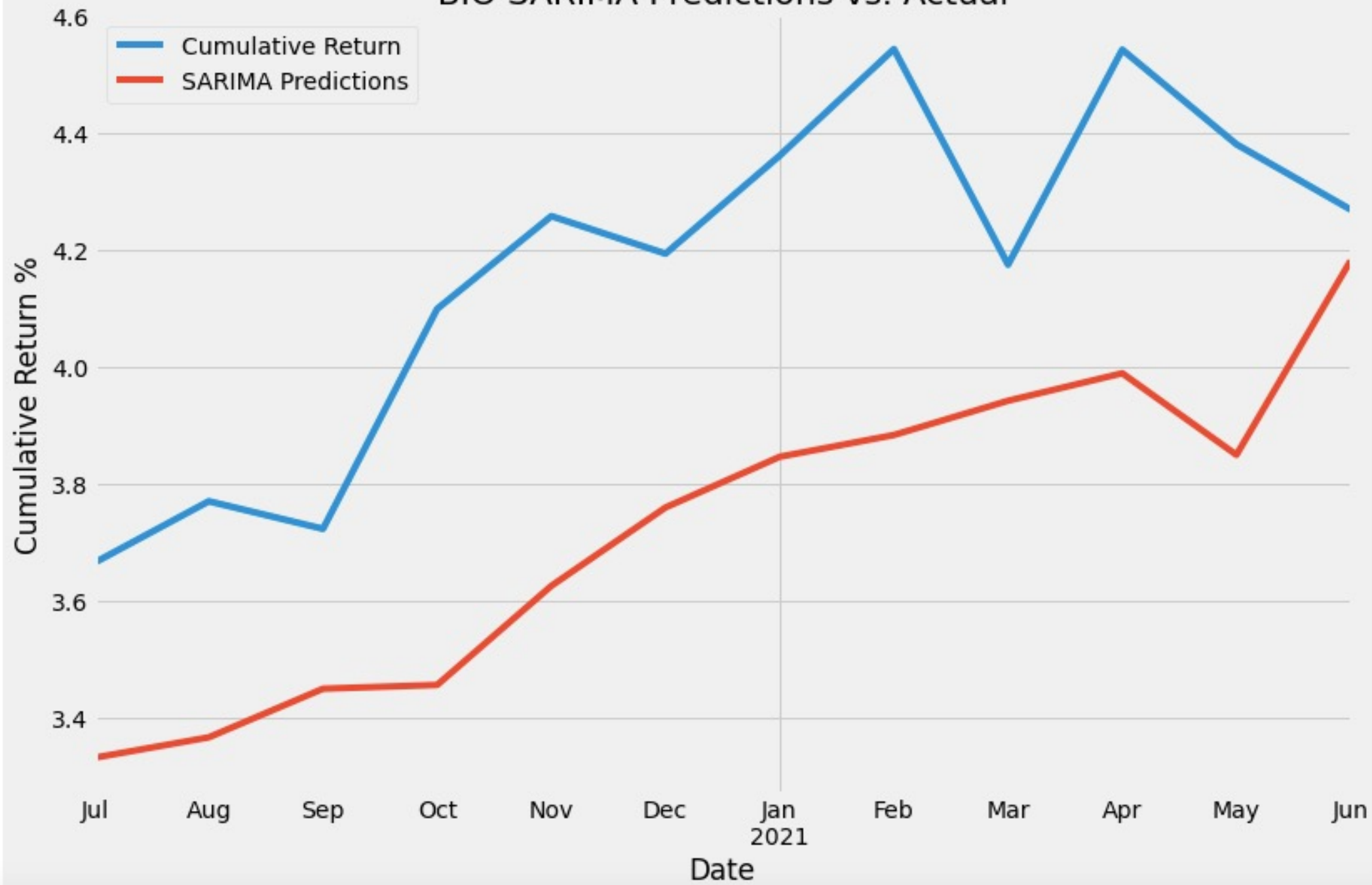
Nvidia SARIMA Predictions vs. Actual



Nvidia 6 Month SARIMA Forecasted Returns



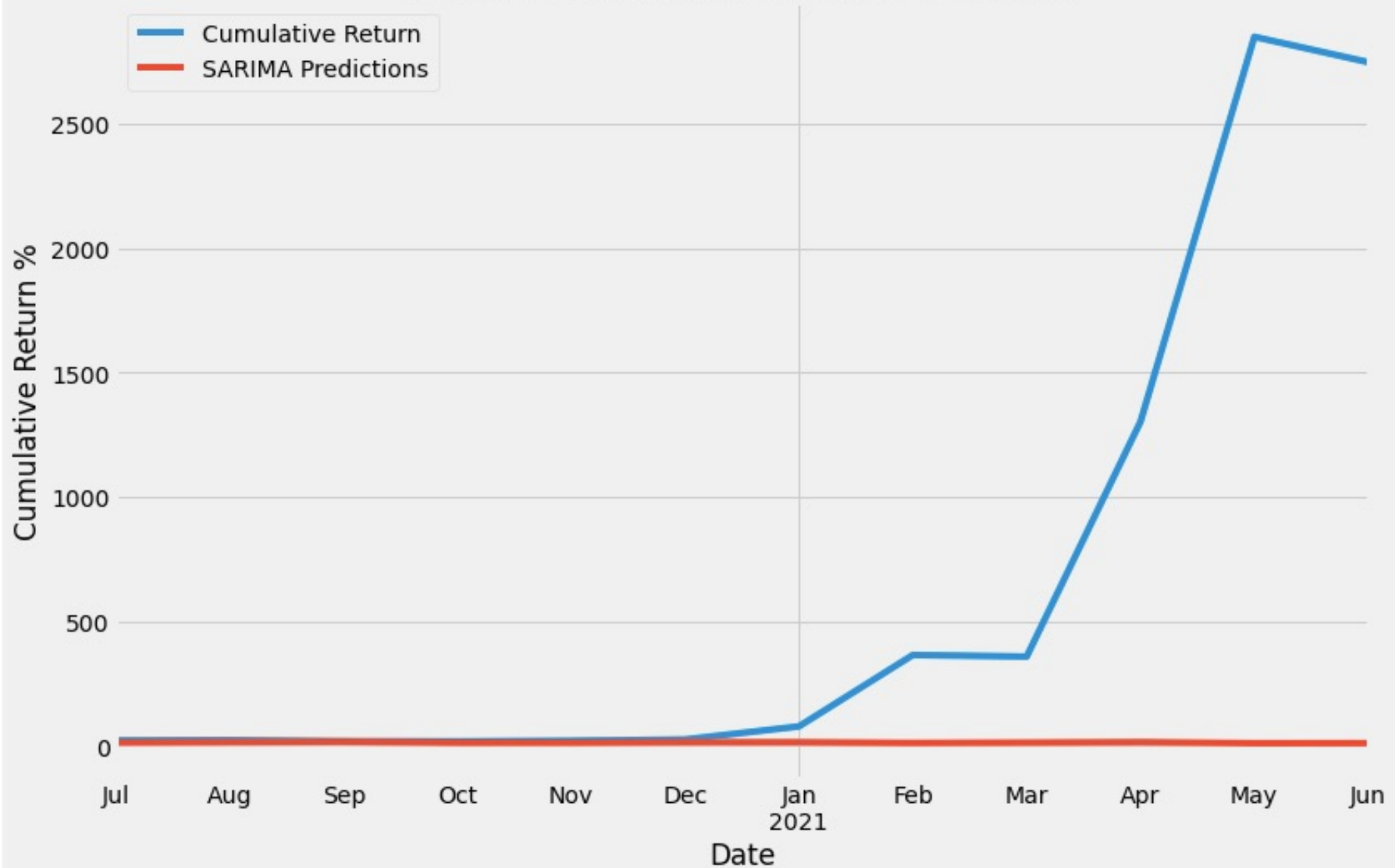
BIO SARIMA Predictions vs. Actual



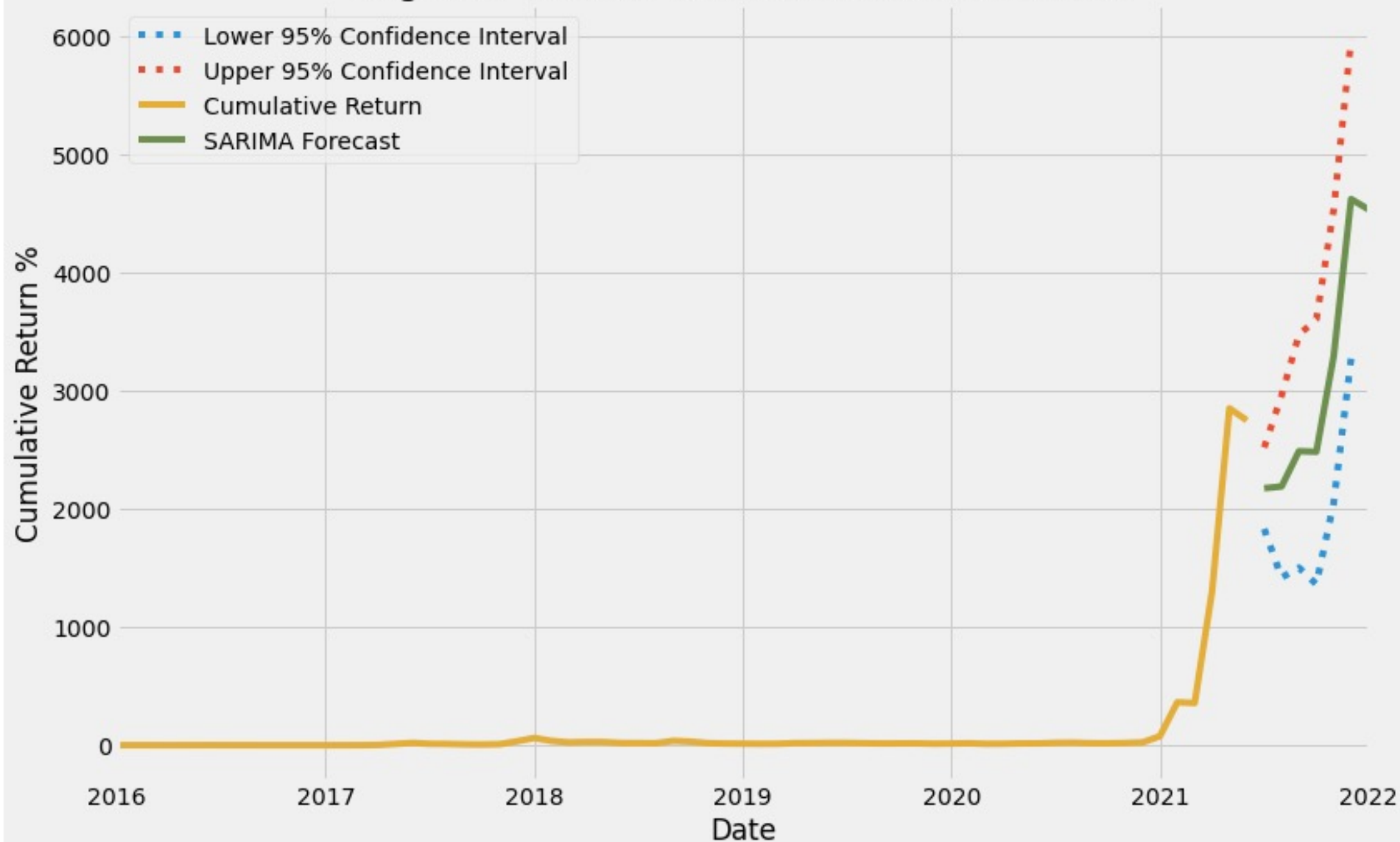
BIO 6 Month SARIMA Forecasted Returns



Dogecoin SARIMA Predictions vs. Actual



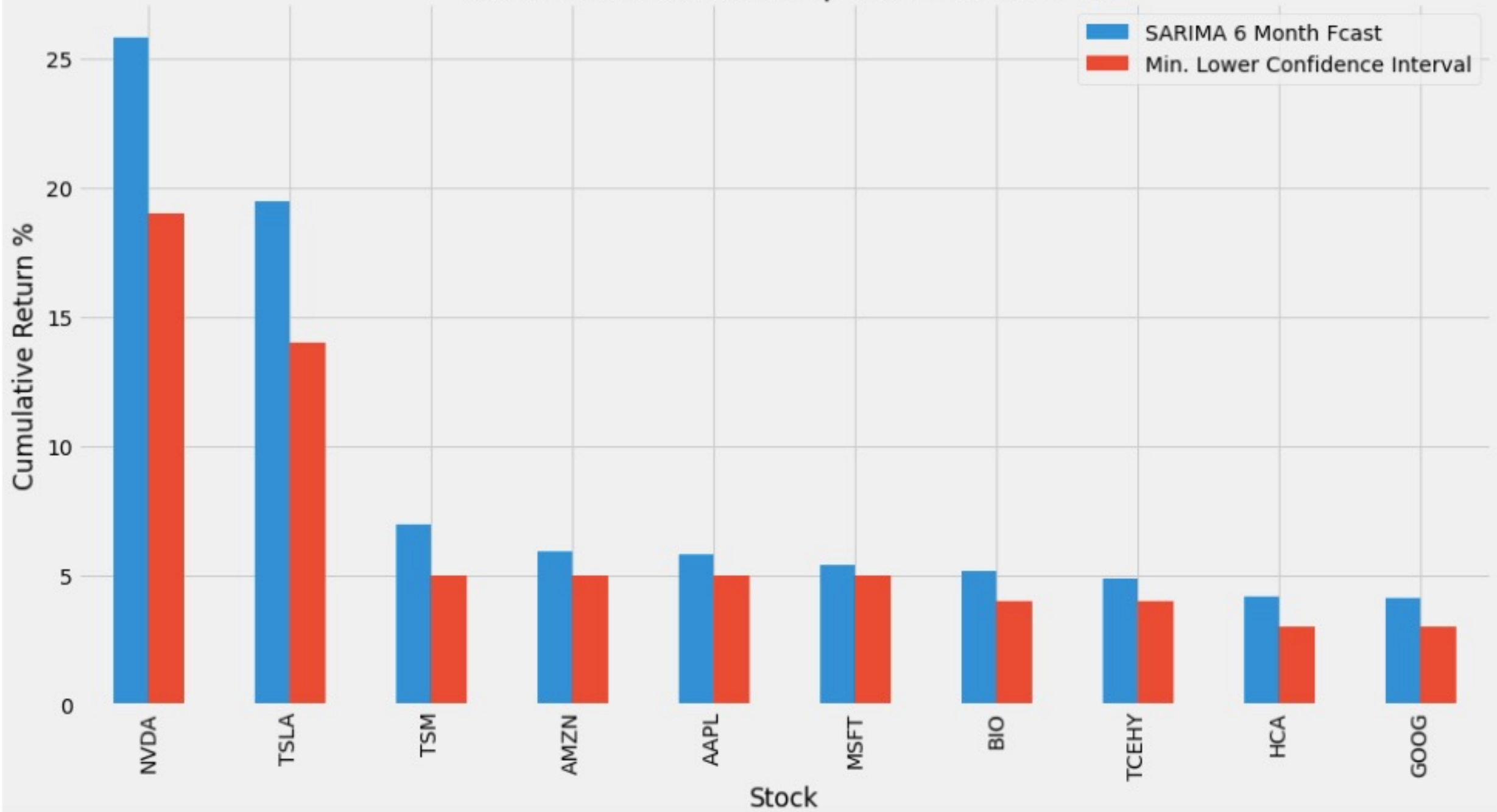
Dogecoin 6 Month SARIMA Forecasted Returns





Final Analysis/Recommendations

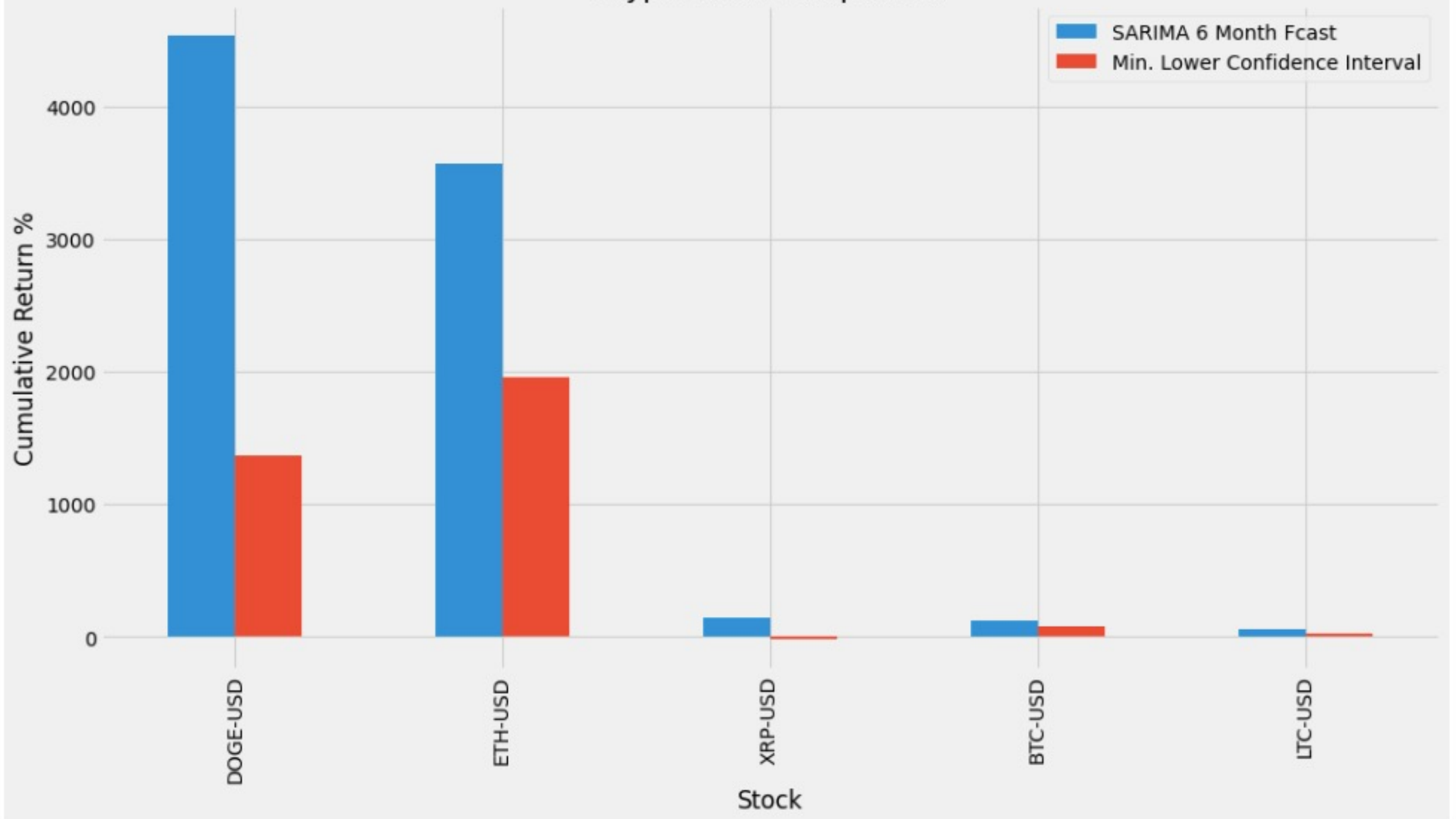
Tech & Health Final Comparison Ranks 1-10



Tech & Health Final Comparison Ranks 11-20



Crypto Final Comparison





Portfolio Recommendations

- Tech Stocks: Nvidia, Tesla, TSMC
- Healthcare Stocks: Bio-Rad, United Health, HCA
- Cryptocurrency: Ethereum



Future Work

- Add another model type (RNN)
- Add more stocks for analysis
- More stock evaluation metrics for analysis



Thank You!

Questions?