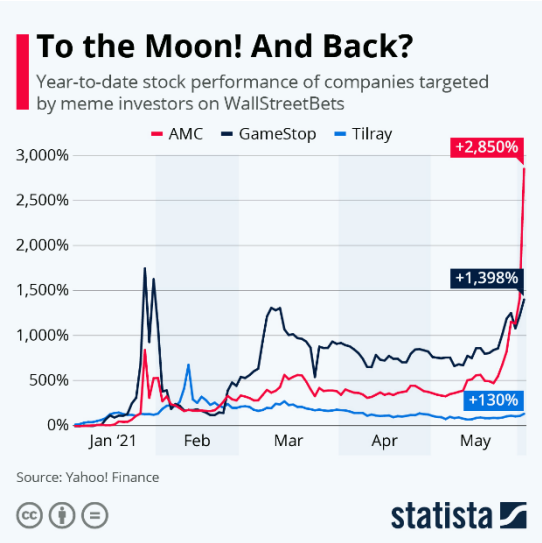
Advising Clients on the Handling of "Meme Stocks"

A UVA Data Science Case Study by Lauren Markwart Spring 2023



Prompt:

After graduating from UVA, you accept a job at a financial advising firm performing market analytics. The analyses you conduct will inform your supervisors recommendations to the firm's clients. It is important that you are able to understand the nature of markets, and stock prices, but you do not have the time or resources to become an expert in every company that is publicly traded.

Your supervisor is evaluating how they should advise their clients on their stock holdings in "meme stocks" such as AMC which plummeted to about $2 during the beginning of the Covid-19 pandemic spring of 2020 and then skyrocketed to about $39 during the summer of 2021 after a subreddit called "wall street bets" encouraged people in mass to purchase these stocks falsely inflating the companies' values. AMC has experienced debilitating volatility in its stock prices since 2020, and you can learn more background here.

Your supervisor recommends that you use some of the skills you learned in your data science minor to develop an algorithm that can forecast and predict future stock prices of meme stocks based on historical data. They would like to know if they should recommend the client to sell their holdings in the companies now, or hold onto them in hopes of a climb in value.

Deliverable:

Develop a model using the provided historical AMC stock data from December 2013 to April 2023 to forecast future stock prices. Your model needs to conclude whether or not AMC stockholders should sell their ownership in the company today or wait until January of 2024. You can explore different methods for forecasting time series data here. Your results should communicate a recommendation to your supervisor.