

Social media

DRIVEN

MEME STOCKS

STOCK PICKS

Trading via the sentiment of retail traders

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* Disclaimer: Not financial advice



NUMBERS

\$12
Billion

LOSS

Losses that hedge funds
incurred during 2021

\$6.8
Billion

LOSS

Melvin Capital's loss in a month
during GME frenzy. They have now
closed down

\$46
Million

GAINS

Amount of money Keith Gill made
from his initial investment of
\$53,000

Source:

<https://www.wsj.com/articles/melvin-plotkin-gamestop-losses-memestock-11643381321>

<https://www.ft.com/content/dcd86860-09ed-420e-a5cc-d6d281863c03>

<https://www.reuters.com/technology/year-gamestop-champion-roaring-kitty-is-quiet-yet-much-richer-2022-02-02/>



52%

Amount of global assets that are under the management of retail investors and is expected to grow > 61% by 2030

Factors that influence the inception of retail investors and meme stocks

01

\$0 trading apps
& fractional shares

Stock trading has never been more accessible than ever, individuals are able to buy stocks with as little as \$1

02

Pandemic downtime

Pandemic has locked people up at home with a lot of free time

03

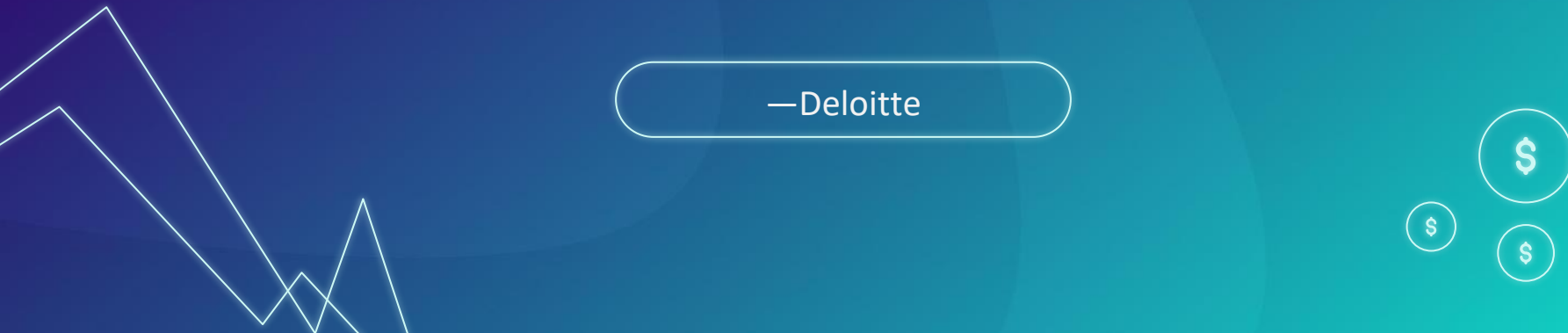

STIMULUS MONEY

Governments were handing out free money in an attempt to stimulate the economy

04

SOCIAL MEDIA FRENZY

With the free money and time, people started to band together on social medias to discuss of means to invest and make more money



“Retail investor activity could continue to have reverberating effects on the market, and may further shift dynamics among institution investors. Taking steps to facilitate strategic transformation and shore up resiliency could be key for firms stay ahead of this next step in the evolution of retail investing.”

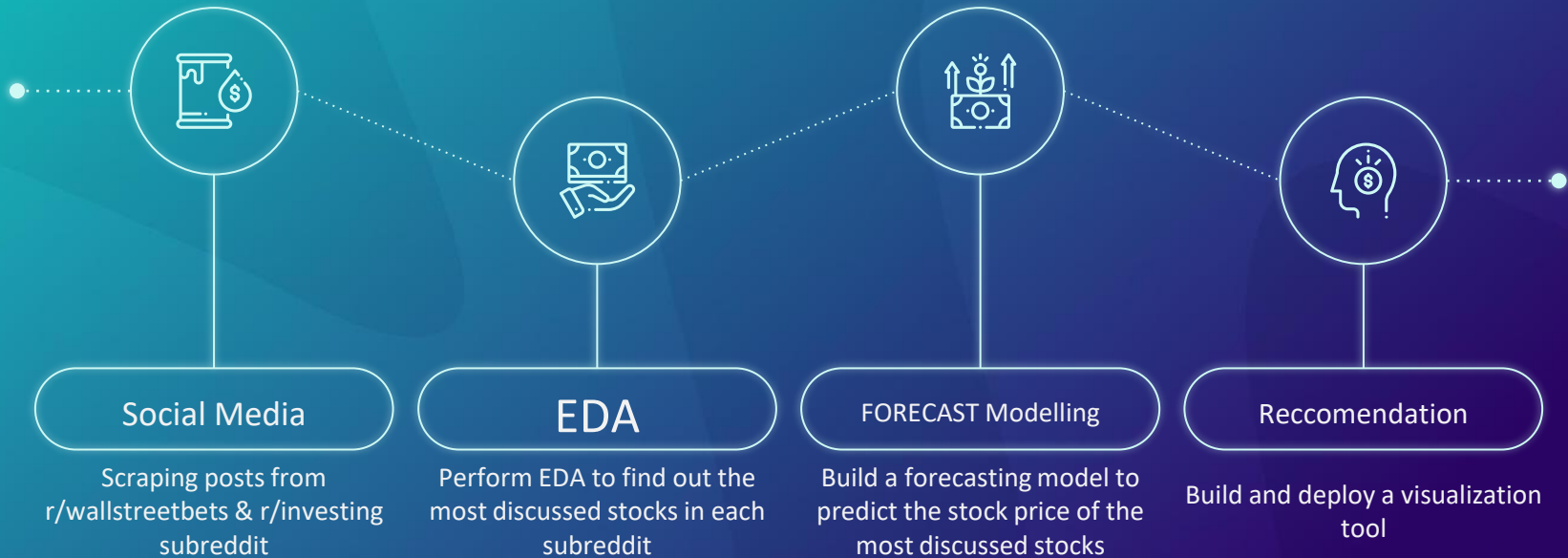
—Deloitte

Problem Statement

To try to make money utilizing retail investors' meme stocks frenzy while at the same time try to not lose money



WORKFLOW





01

Scraping & EDA

Finding out the stocks that is being
talked about most

SCRAPING From reddit



r/wallstreetbets

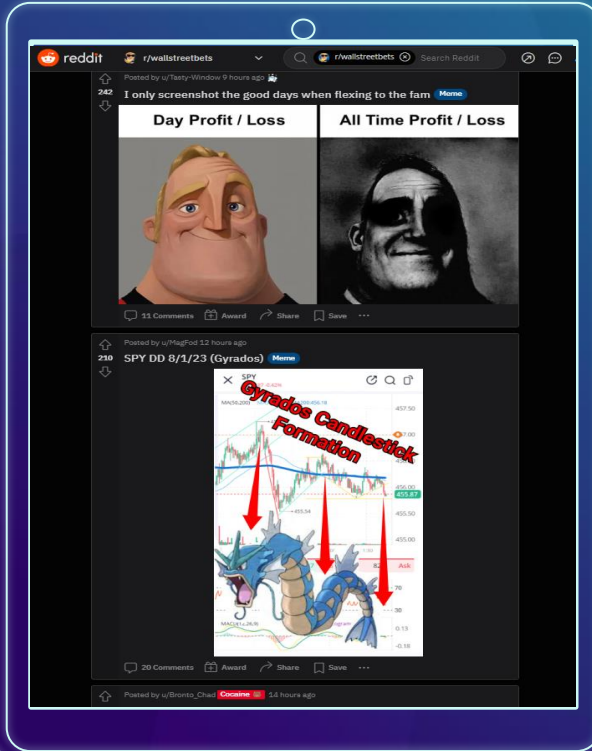
The main subreddit that generated the meme stocks frenzy, adopts high risk, degenerative strategy



r/investing

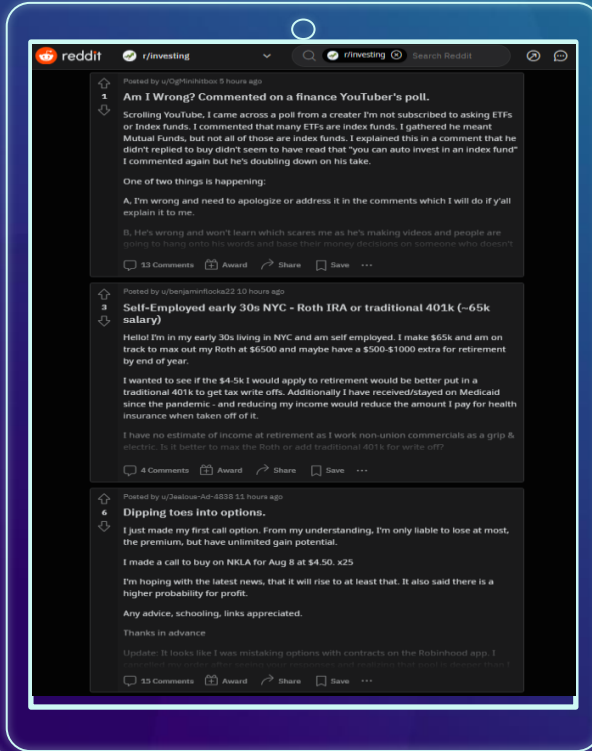
The subreddit that is more mature, and grounded. Adopts a lower risk, conservative strategy

SCRAPING From reddit



- r/wallstreetbets contains more images as the community tend to post more memes than actually writing down their due diligence

SCRAPING From reddit



- r/investing contains more written posts as the community are generally a bit more financially literate and do actually write down their due diligence and discuss their view

EDA & extraction



SCRAPE

Scrape the respective subreddits using reddit api PRAW



CLEANING

Cleaning the scraped data, check for null entries, duplicates, datatypes, etc



Feature ENGR

Merging feature, splitting words, defining stop words, filter for potential ticker symbols



EXTRACTION

Extracting the most discussed ticker symbols in each subreddit



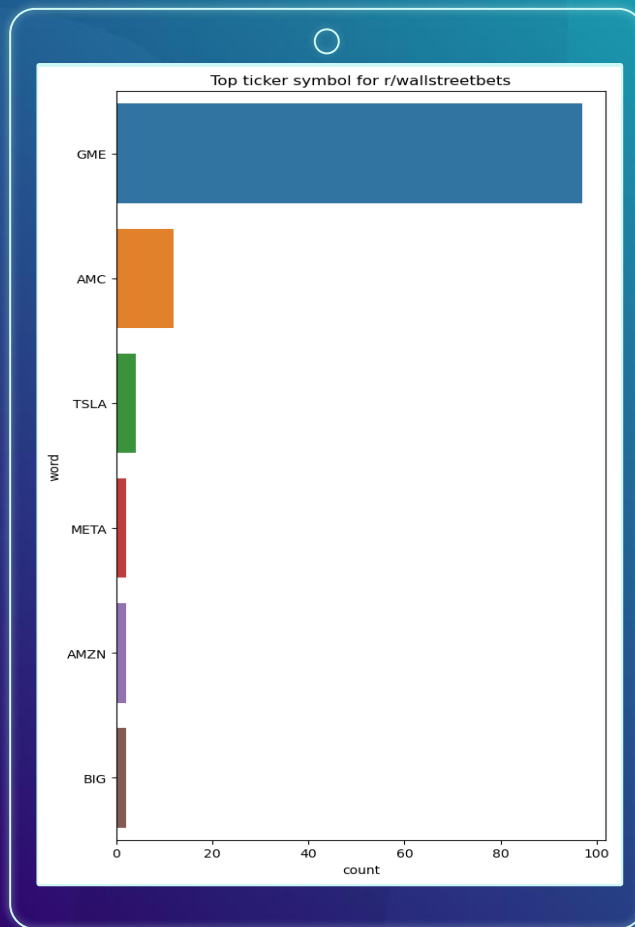
EXTRACTED TICKET SYMBOLS From reddit



r/wallstreetbets

Most discussed ticker symbols:

1. GME
2. AMC
3. TSLA
4. META



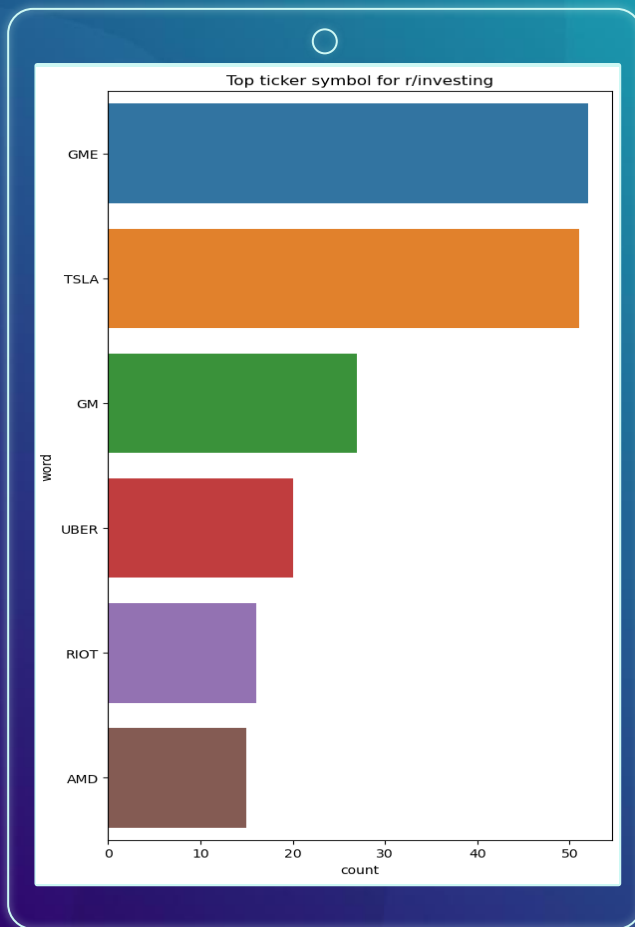
EXTRACTED TICKET SYMBOLS From reddit



r/investing

Most discussed ticker symbols:

1. GM
2. UBER
3. RIOT
4. AMD



CALculating for VWAP

Sample of historical data

| | Date | Close/Last | Volume | Open | High | Low |
|---|------------|------------|---------|---------|---------|---------|
| 0 | 07/25/2023 | \$22.85 | 1671991 | \$23.10 | \$23.10 | \$22.53 |
| 1 | 07/24/2023 | \$23.04 | 2970433 | \$22.42 | \$23.04 | \$22.20 |
| 2 | 07/21/2023 | \$22.18 | 3167916 | \$23.05 | \$23.22 | \$22.16 |
| 3 | 07/20/2023 | \$22.91 | 2256659 | \$23.01 | \$23.22 | \$22.66 |
| 4 | 07/19/2023 | \$23.17 | 2250133 | \$23.42 | \$23.58 | \$22.96 |

CALculating for VWAP

VWAP: Volume Weighted Average Price

- Ratio of the value of a security traded to the total volume of transactions during a trading session.

$$VWAP = \frac{\sum (Volume * Typical Price)}{\sum Volume}$$

$$Typical Price = \frac{(High + Low + Close)}{3}$$

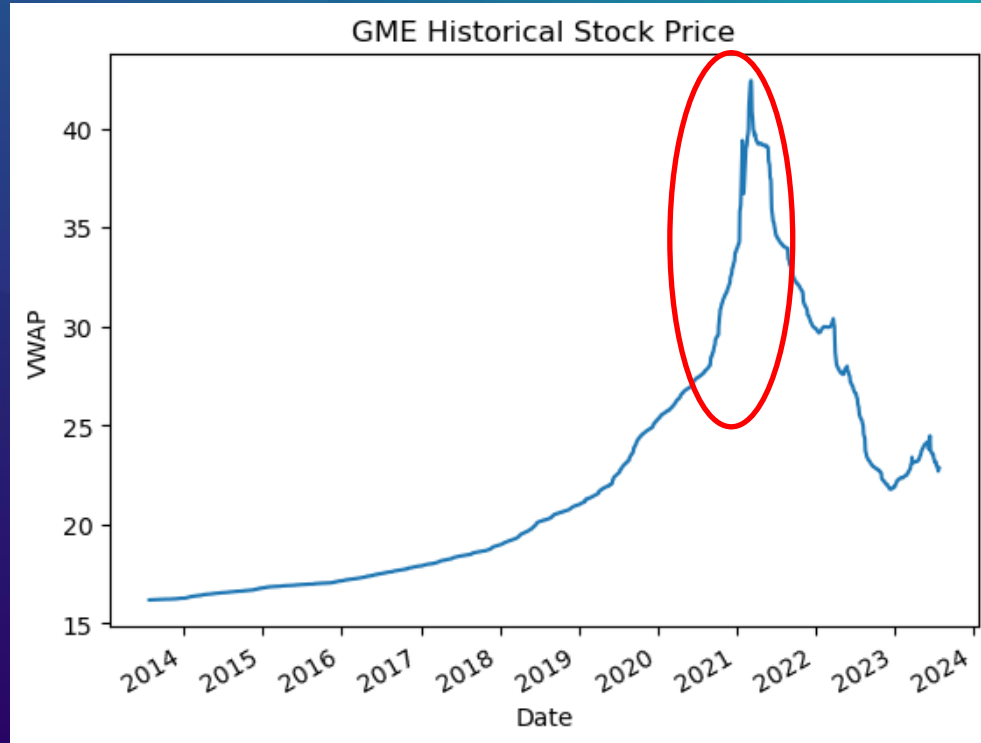
Gamestop historical stock price



VWAP (\$) :

Volume Weighted Average
Price

- Ratio of the value of a
security traded to the total
volume of transactions
during a trading session.



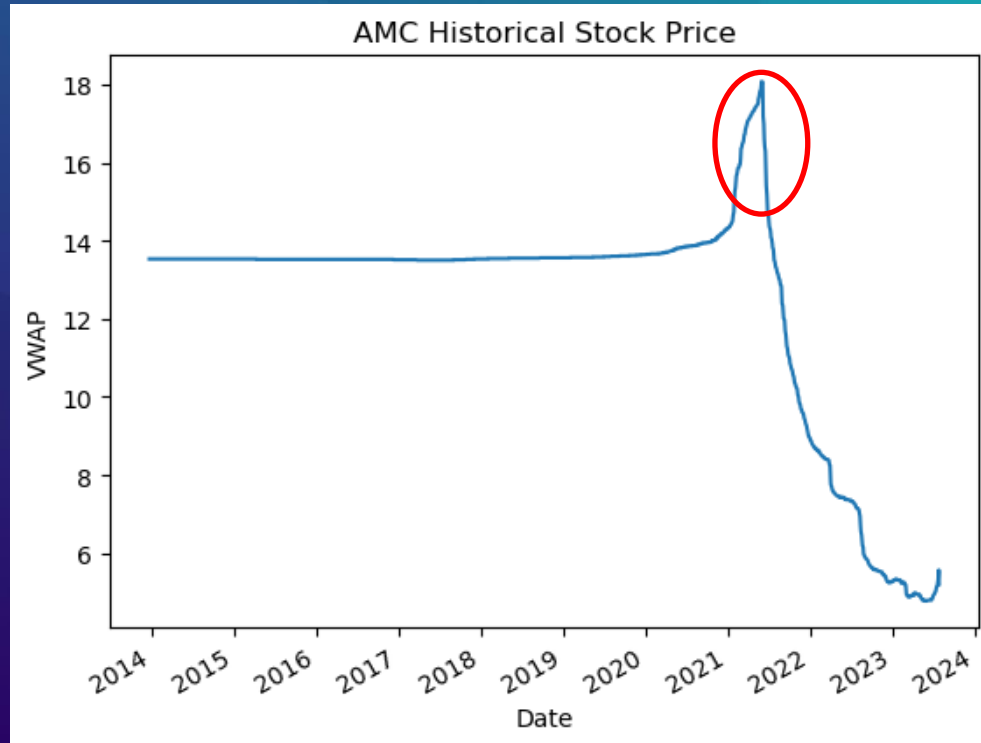
AMC historical stock price



VWAP (\$) :

Volume Weighted Average
Price

- Ratio of the value of a
security traded to the total
volume of transactions
during a trading session.



TESLA historical stock price



VWAP (\$) :

Volume Weighted Average
Price

- Ratio of the value of a
security traded to the total
volume of transactions
during a trading session.



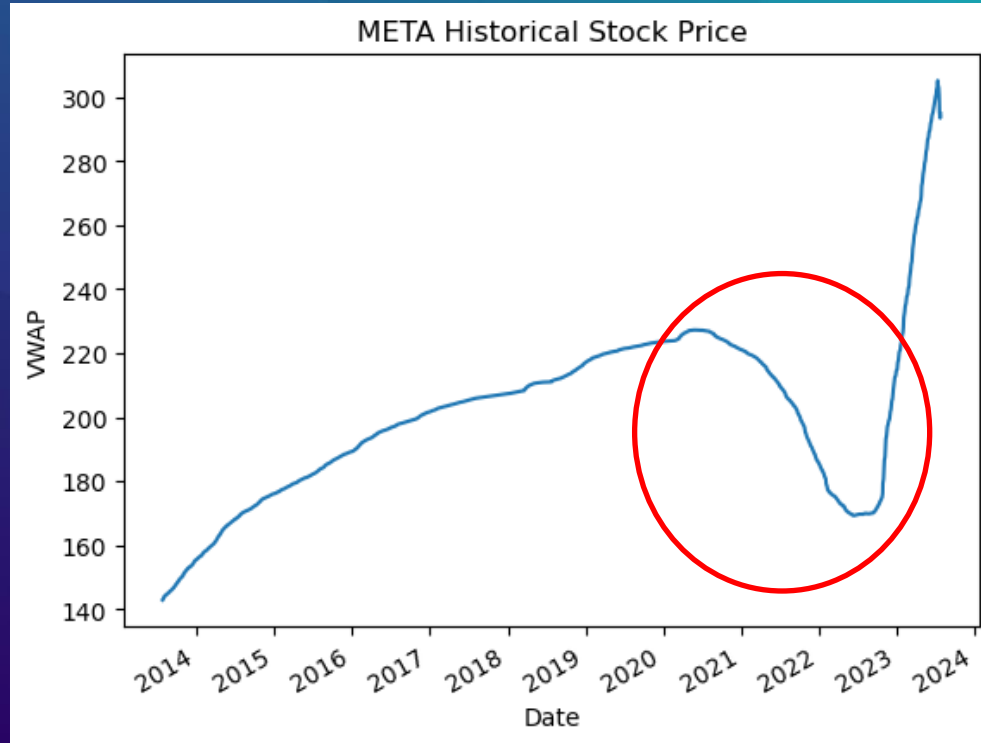
META historical stock price



VWAP (\$) :

Volume Weighted Average
Price

- Ratio of the value of a
security traded to the total
volume of transactions
during a trading session.



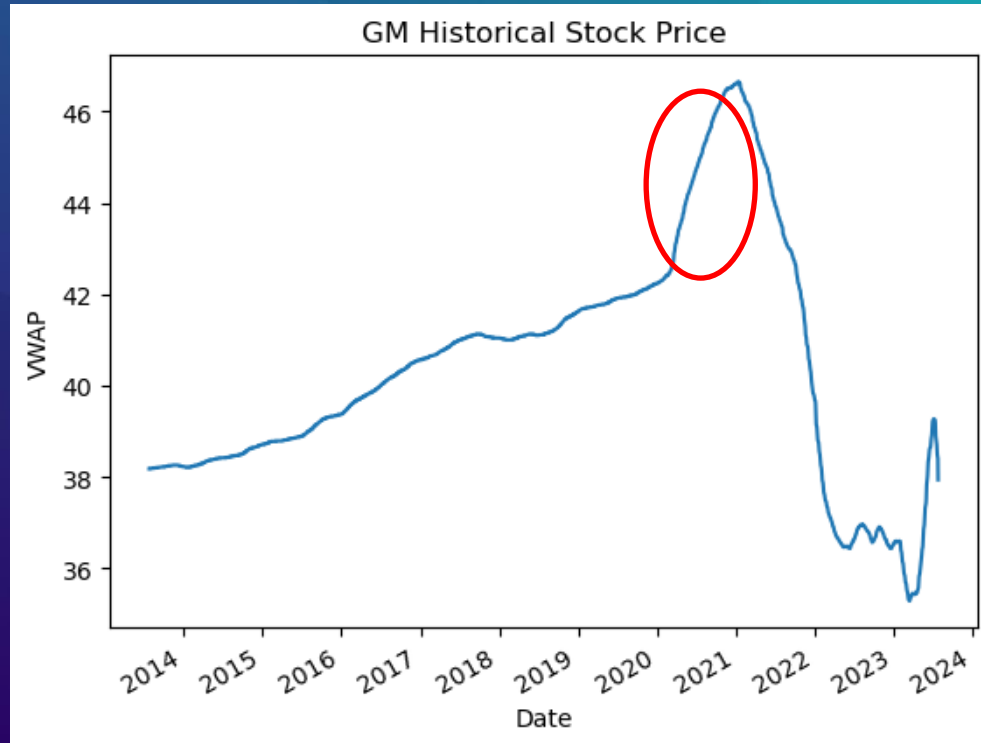
GM historical stock price



VWAP (\$) :

Volume Weighted Average
Price

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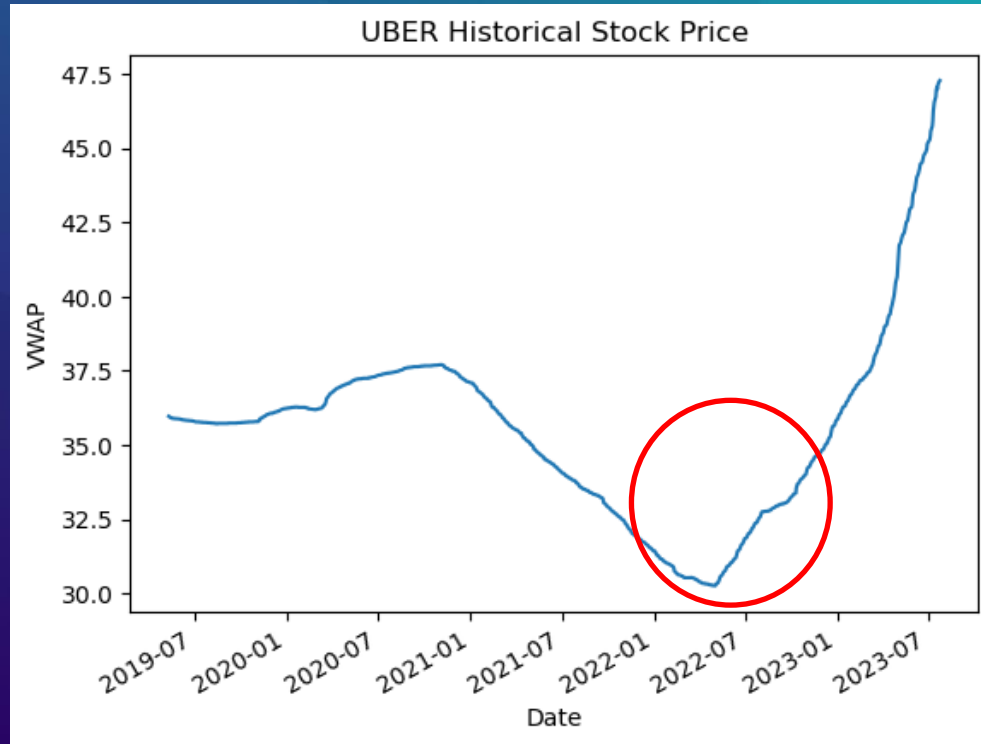
UBER historical stock price

Uber

VWAP (\$) :

Volume Weighted Average
Price

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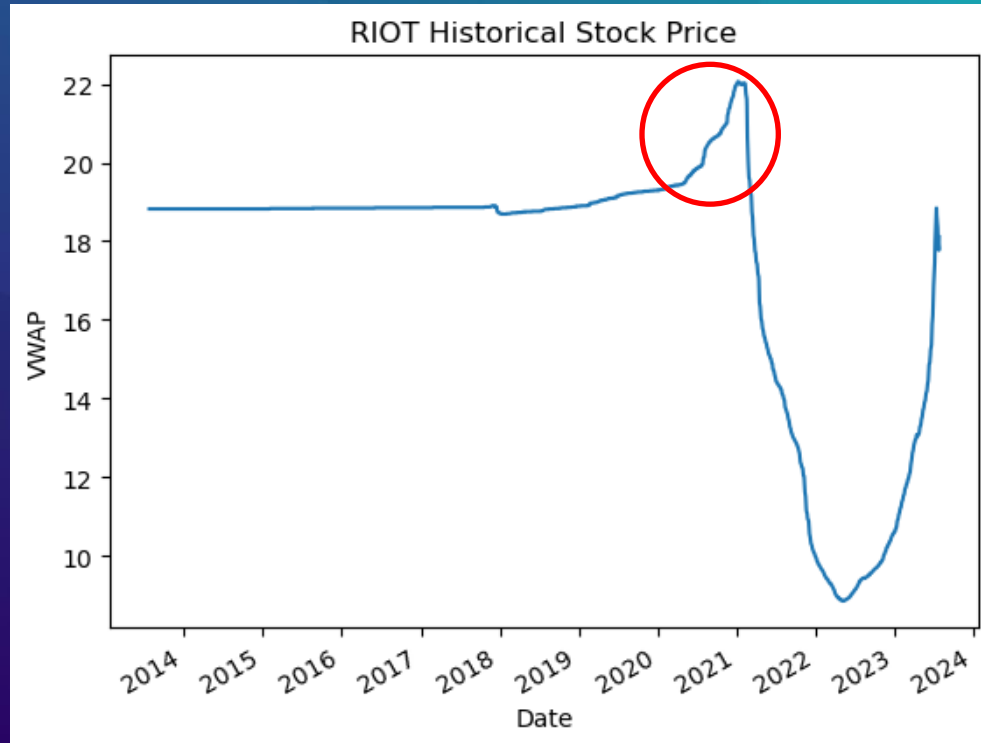
RIOT Platforms historical stock price



VWAP (\$) :

Volume Weighted Average
Price

- Ratio of the value of a
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volume of transactions
during a trading session.



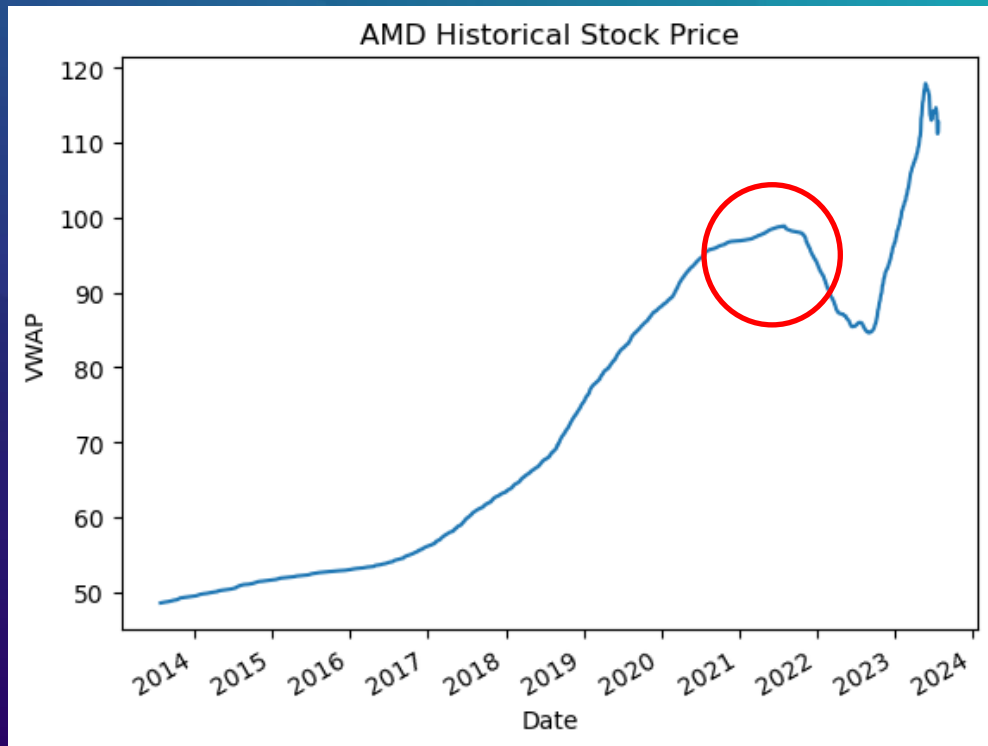
AMD historical stock price



VWAP (\$) :

Volume Weighted Average
Price

- Ratio of the value of a
security traded to the total
volume of transactions
during a trading session.



02

FORECAST MODELLING

Building up the model to forecast
the future stock prices



Regression Models

| | R2 | MAPE |
|-----------------------------------|-------|-------|
| Orthogonal Matching Pursuit (OMP) | -0.72 | 8.46% |
| Linear Regression | -0.72 | 8.4% |
| Ridge Regression | -0.72 | 8.47% |
| Random Forest Regressor | -1.94 | 8.97% |

Other Models

| | R2 | MAPE |
|--|-------|-------|
| Huber Regressor with Condition, Deseasonalize & Detrending | -0.55 | 0.36% |
| Auto ARIMA | -0.7 | 0.39% |
| Theta Forecaster | -2.47 | 0.64% |
| Naïve Forecaster | -3.0 | 0.67% |

Fbprophet (Final)



| | R2 | MAPE |
|------|------|-------|
| GME | 0.98 | 2.01% |
| AMC | 0.98 | 2.36% |
| TSLA | 0.97 | 2.91% |
| META | 0.72 | 3.86% |

Fbprophet (Final)



| | R2 | MAPE |
|------|------|-------|
| GM | 0.92 | 1.05% |
| UBER | 0.99 | 0.18% |
| RIOT | 0.90 | 4.4% |
| AMD | 0.96 | 2.28% |



03

RecommendATION

So what to make of it?

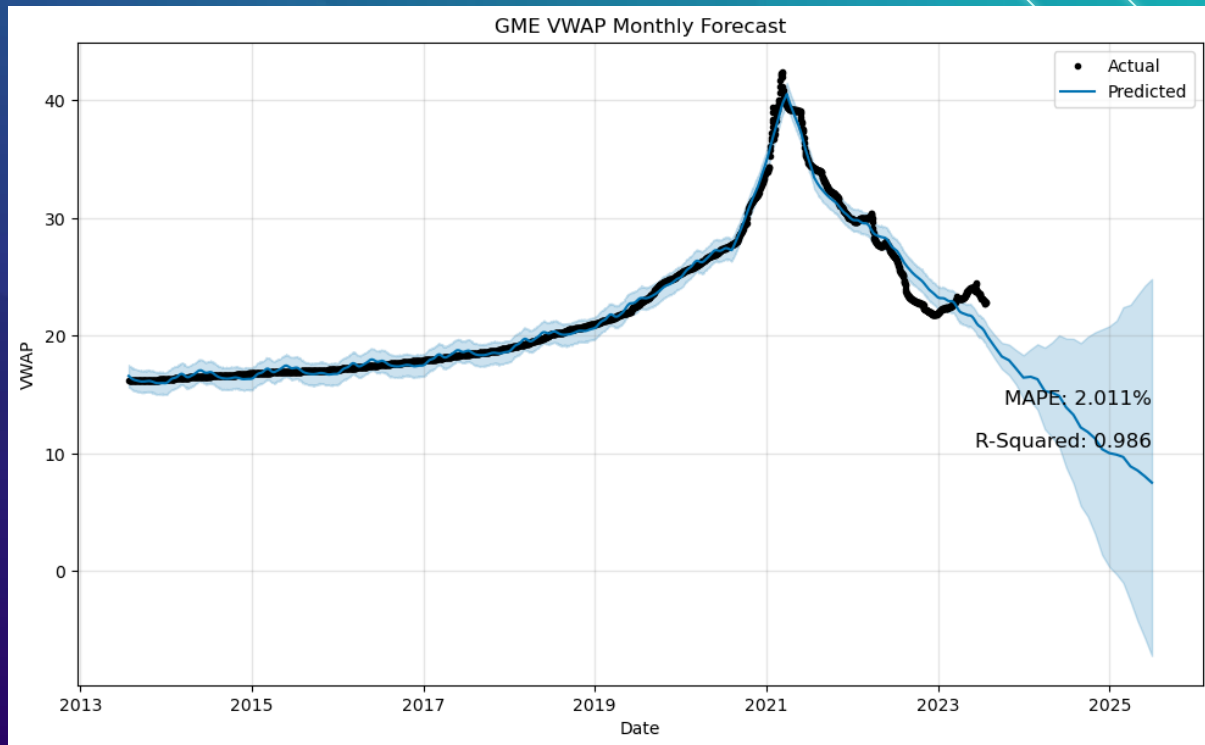
Gamestop stock price FORECAST



Forecast Period : 2 years

Recommendation:

SELL



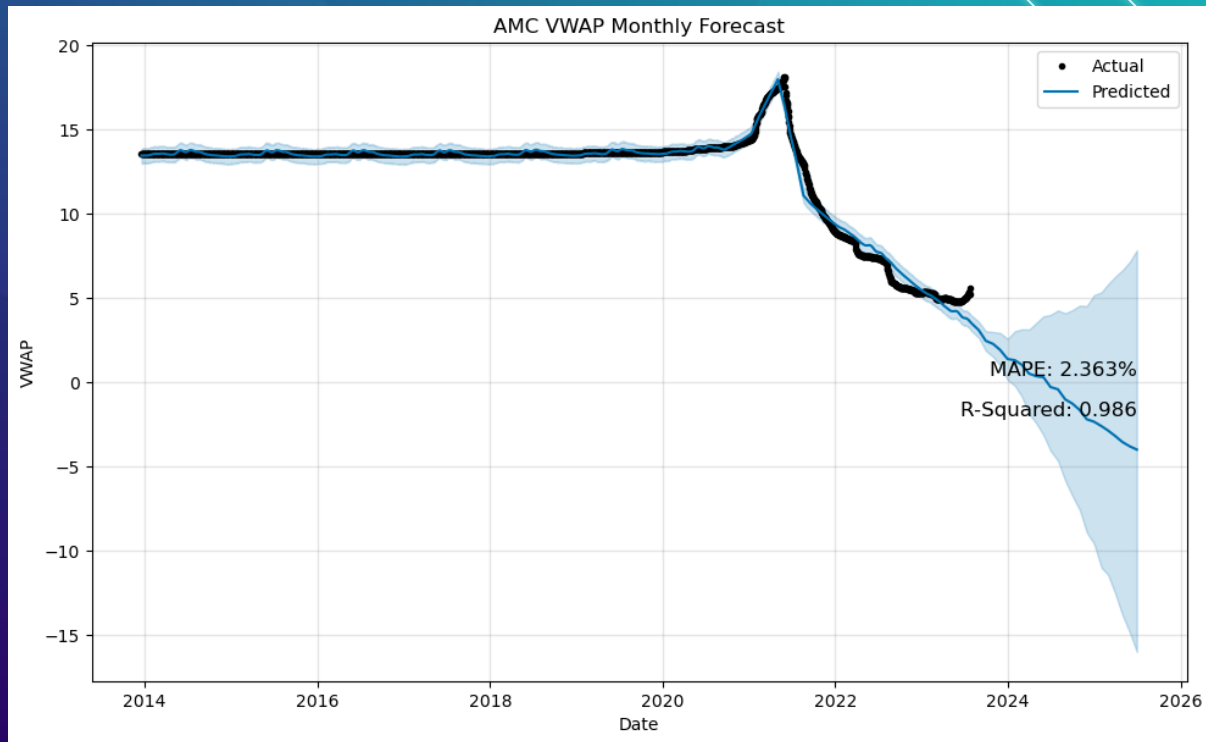
AMC stock price FORECAST



Forecast Period : 2 years

Recommendation:

SELL



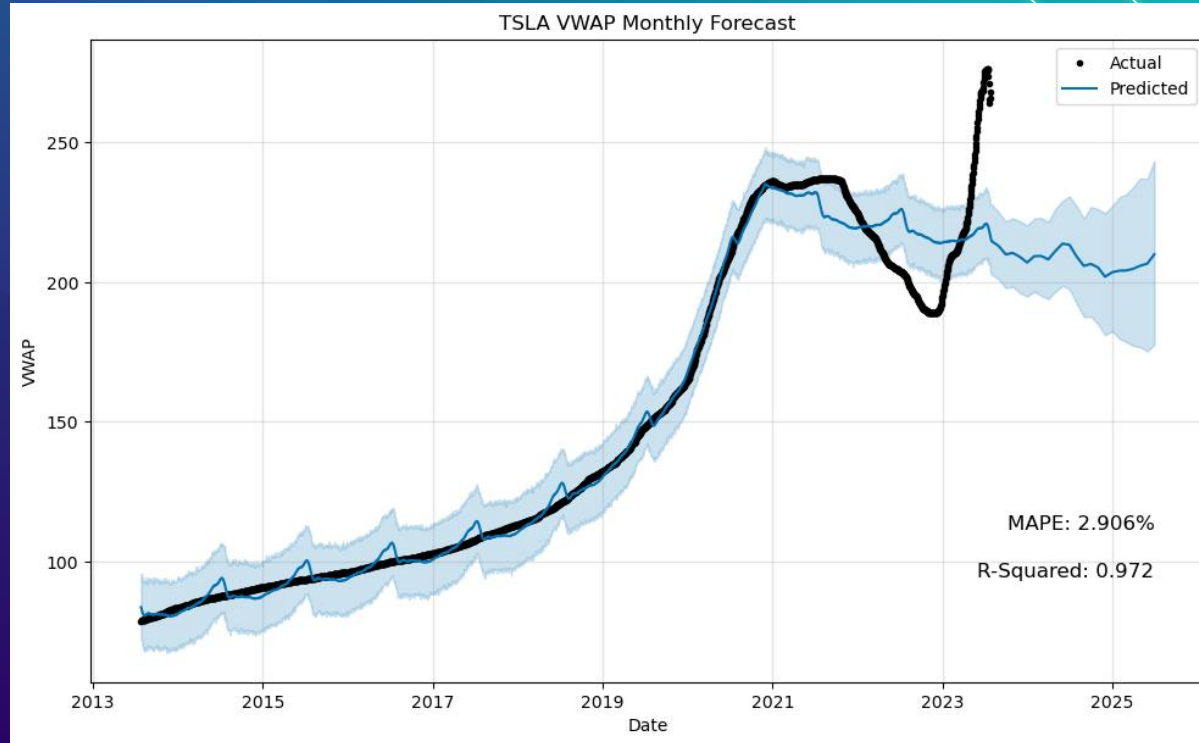
TESLA stock price FORECAST



Forecast Period : 2 years

Recommendation:

Depends on
your personal risk
tolerance



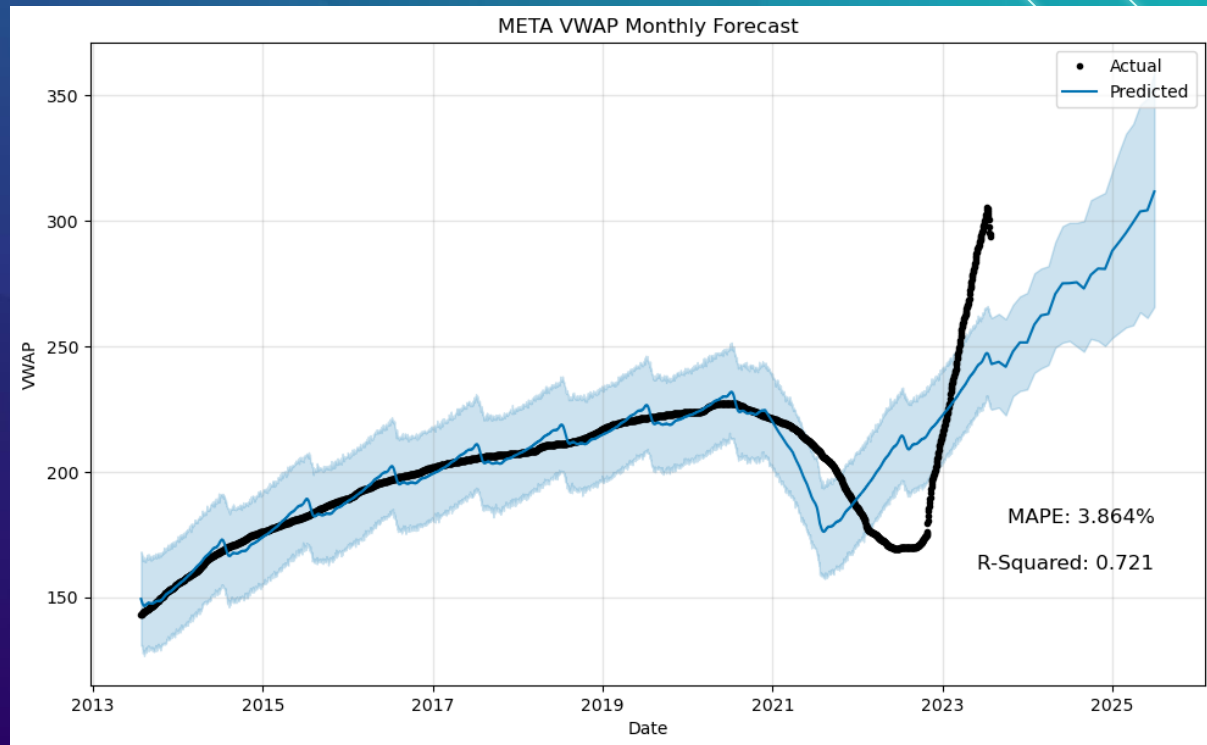
META stock price FORECAST



Forecast Period : 2 years

Recommendation:

BUY



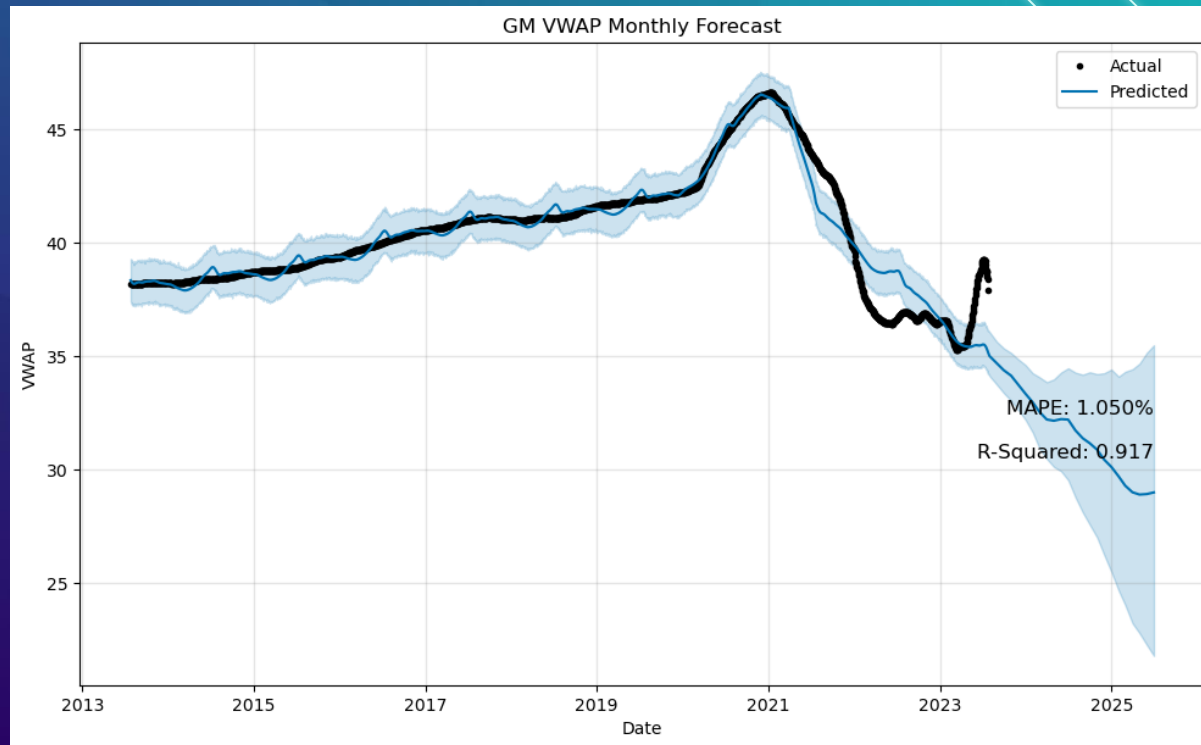
GM stock price FORECAST



Forecast Period : 2 years

Recommendation:

SELL



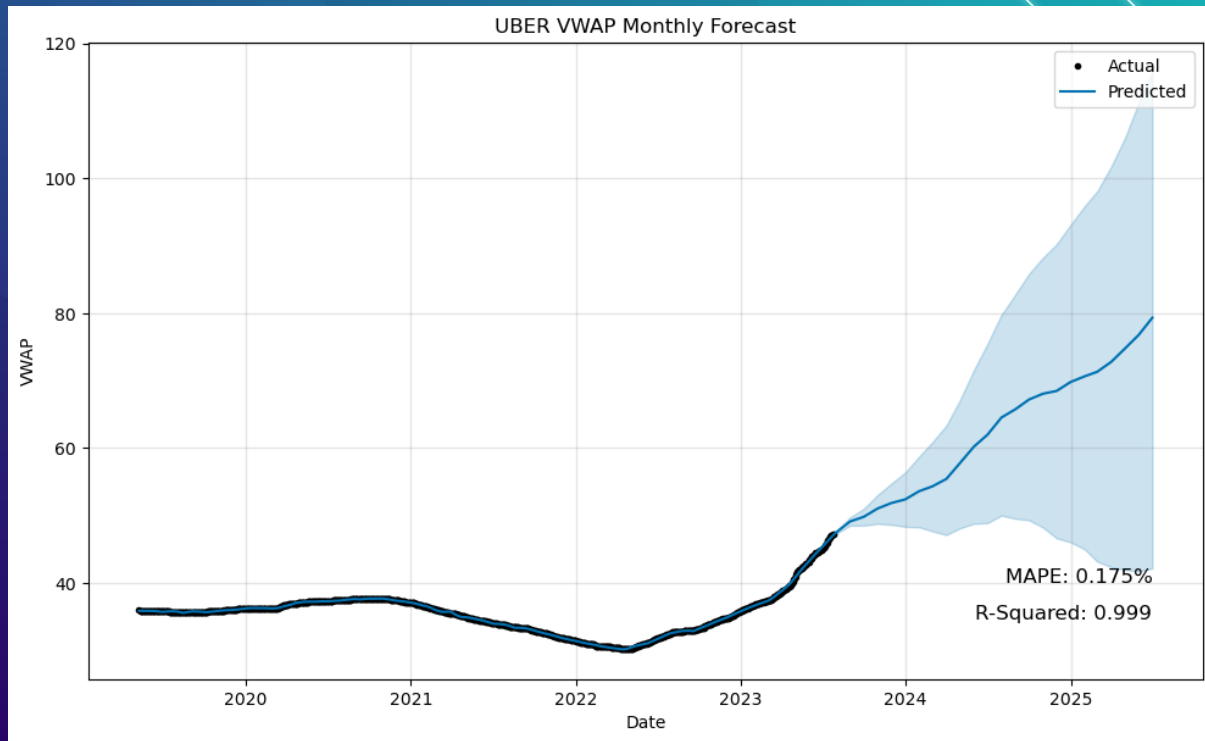
UBER stock price FORECAST

Uber

Forecast Period : 2 years

Recommendation:

BUY



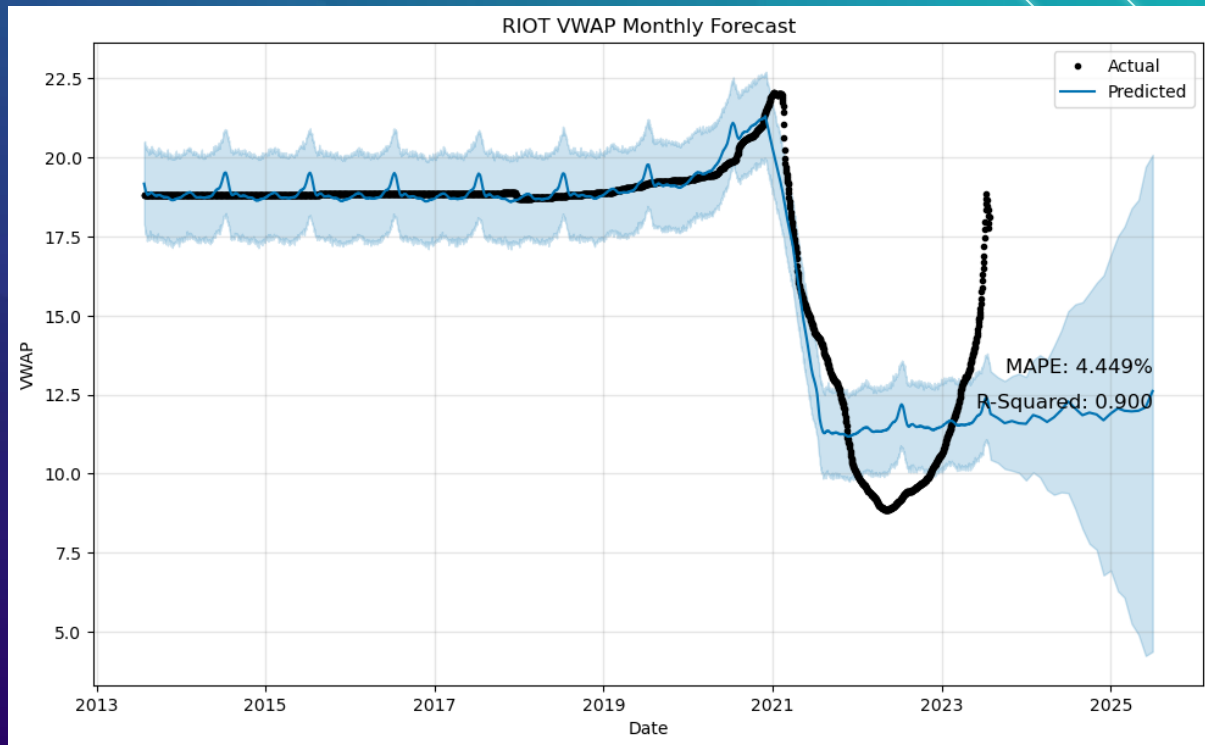
RIOT Platforms stock price FORECAST



Forecast Period : 2 years

Recommendation:

Depends
on your personal
risk tolerance



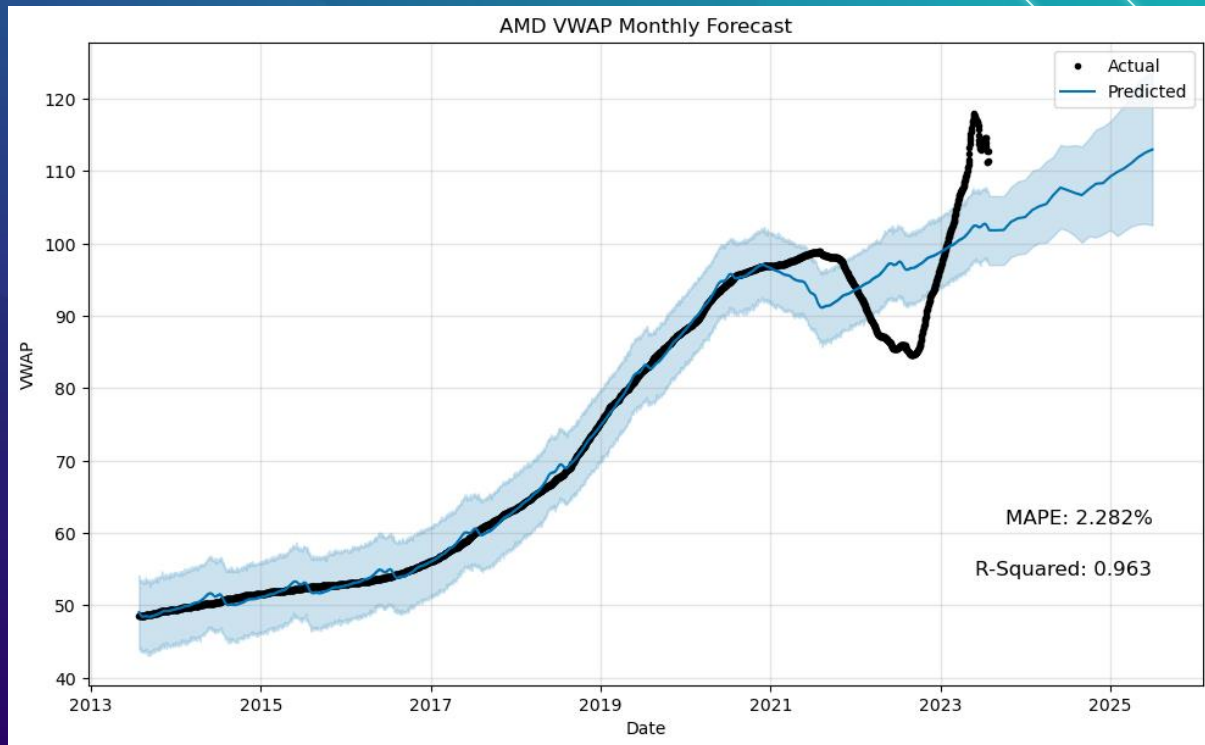
AMD stock price FORECAST



Forecast Period : 2 years

Recommendation:

BUY



Disclaimers

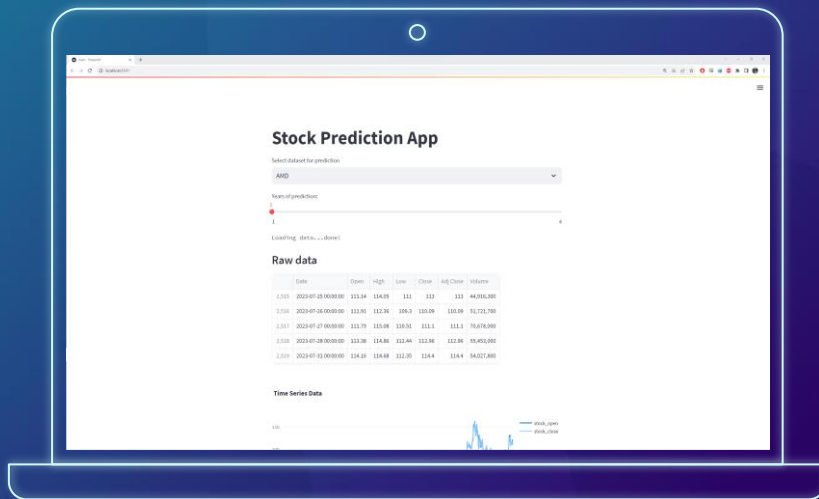
- This is NOT financial advise.
 - Please always consult a professional investment advisor before making any investment decision.
- Correlation does not imply causation.
- “Nobody knows if a stock is gonna go up, down, sideways, or in circles.”
 - Mark Hanna, Wolf of Wall Street (2013)
- “All models are wrong, but some are useful.”
 - George Box



04

DEMONstration

Demonstration of the streamlit
visualization dashboard



Future works



NLP

To implement more advanced NLP techniques into the process of filtering for ticker symbols from social media



Neural networks

To test and implement other neural network forecasting model in an attempt to develop a model that can better deal with non-stationary data



DYNAMIC

To implement dynamic data to get updated predictions everytime the app is used



Social medias

To expand our data collection to other forms of social media other than reddit to better grasp retail investors' hype



EXpansion

Expand our selection of stocks to generate forecast for whichever stock the user is interested in



Sentiment

To build and implement a robust sentiment analysis model to also incorporate sentiment retail investors' to each ticker symbol

Thanks!

Do you have any questions?

Wanna fund me? Kindly approached me to discuss for future collaboration opportunities.

