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Stock Analysis App:

Employing AI for real-time stock market analysis

We are planning to use react-native on the front-end and Python for the backend. We will use python libraries like keras, scikit-learn and NLTK to build the model. We will use data like stock info, news/posts through APIs, specific ones are listed below.

Why?

With the rise of online brokerage like Robinhood, Webull many people are into buying/selling/shorting stocks. There are many people, especially in social media, so called “influencers" who give stock advice to people and people blindly follow their advice and most of the time lose their money.

The goal is to provide the users with stock suggestions that are based on real-time analysis using AI powered models.

Approach for building the app

Data Points

Tweets about a company
Reddit Posts
News headlines about a company (e.g. CNN)

Get the data from respective APIs, perform data preprocessing.

Sentiment Analysis will be a classification model.
It classifies whether the overall news is either good/bad.

For a given company on a given date,
Compile all these twitter posts, reddit posts and run sentiment analysis (**USE NLTK library**)
Take the majority vote of sentiments for that stock in that day.
Assign a numerical value or insight which is useful to the user.

Stock Price prediction

This will be a regression model (i.e. it will give a prediction on the price of stock for a date). For prediction, Use a regression model from **(sci-kit learn library**) or Use **LSTM neural net** to build the model. (**keras library on python).**

Use Yahoo finance API to get stock data for a given company,
Data includes all sorts of financial metadata (dividends, financial reports, etc) extracted from Yahoo finance API.
Useful data for a stock-> Date, Open price, close price, high, low, volume/float

Result

Combine results from sentiment analysis and the prediction model and provide useful feedback for a given stock and deliver it to the user.

Build a screener to display top ten best stocks to watch out each day based on the results above? Sorting required.

Customers/Users

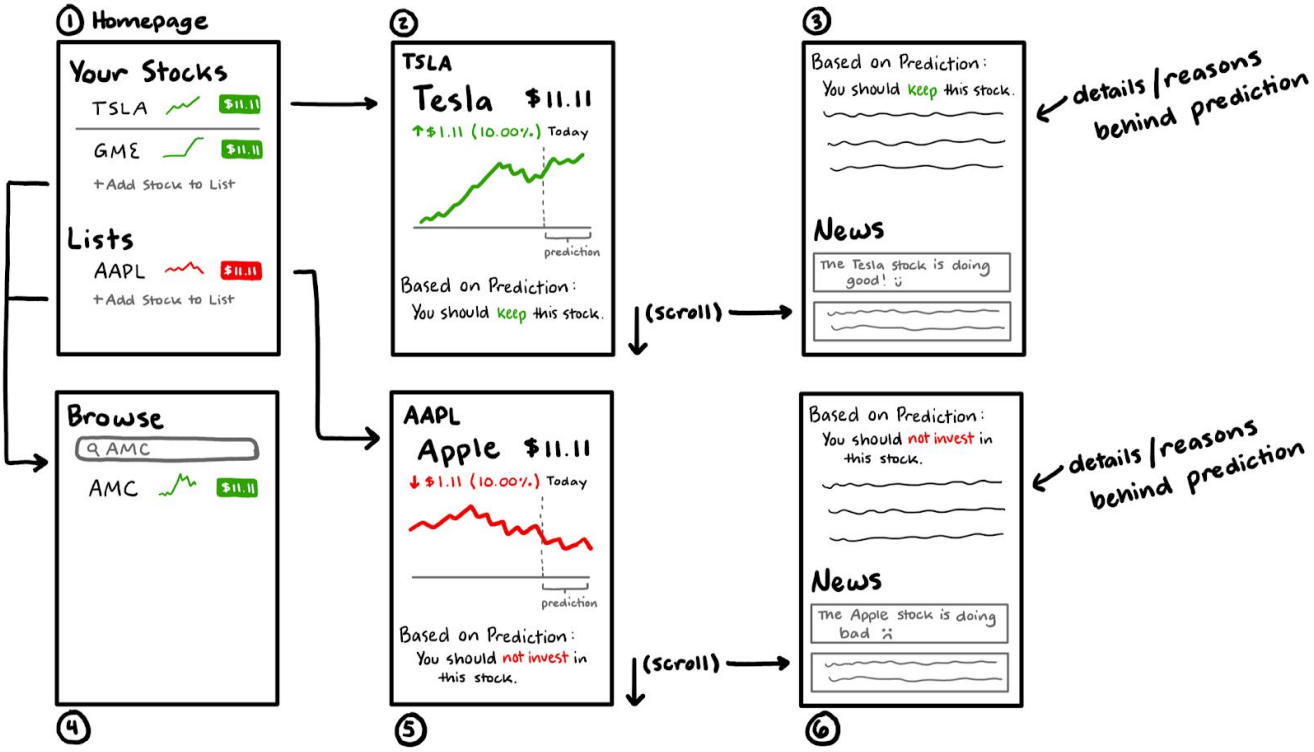
Any active or non-active traders.

Projected Risks

1) Challenges faced on data access and preprocessing through various APIs.
2) Most stock APIs are not free, cost for the project can be an issue.
3) Achieving a satisfactory test accuracy on the model can be a challenge.

Github link: https://github.com/puskardev/StockApp

User Interface Feel 1.0


1 Homepage
Your Stocks
TSLA
$11.11
GME
$11.11
+Add Stock to List
Lists
AAPL
$11.11
+Add Stock to List
Browse
AMC
AMC
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4
2
TSLA
Tesla $11.11
↑$1.11 (10.00%) Today
prediction
Based on Prediction:
You should keep this stock.
AAPL
Apple $11.11
↓$1.11 (10.00%) Today
prediction
Based on Prediction:
You should not invest in this stock.
5
(scroll)
3
Based on Prediction:
You should keep this stock.
News
The Tesla stock is doing good! :)
details / reasons behind prediction
(scroll)
Based on Prediction:
You should not invest in this stock.
News
The Apple stock is doing bad :(
details / reasons behind prediction
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