

WSB BANG Stocks analysis project

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Github link: <https://github.com/Mickey1356/sutd-ai-project>
Website link: <https://wsbets-5a075.web.app/>

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1 Context and Background Information

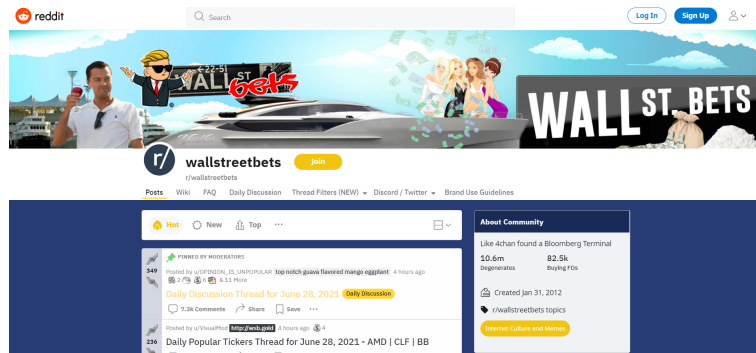


Figure 1: WSB Reddit page

In 2021, a new group of investors on Reddit stirred the stock market wildly. This group of investors or retail traders is known popularly as Wall Street Bets (WSB)¹. They claimed to counter market manipulation by big whales, which was a strategy that had solely benefited the centralized financial institution for years while hurting retail and small-time investors.

The stocks that they are interested in are generally known as MEME stocks and these stocks experienced explosive growth for no fundamental reasons, which makes the market unpredictable. Their style of investing is to bet heavily on stocks that are heavily shorted by hedge funds to artificially raise up its price and deal major losses for some investing firms such as Citron and Melvin Capital.

The main mode of communication used is on the Reddit page wallstreetbets² as shown in Figure 1. Other modes of communication exist as well, such as Discord and Telegram, but they are used on a much more minor scale.

¹<https://en.wikipedia.org/wiki/R/wallstreetbets>

²<https://www.reddit.com/r/wallstreetbets/>



Figure 2: GME short squeeze in January 2021

A general standard of procedure of theirs is shown below:

1. Identify heavily shorted stocks (GME, AMC, BB, NOK etc).
2. Discuss these stocks and their possible damages to big whales and market manipulators.
3. Rally everyone to purchase the stock, artificially raising up the prices and harm big whales and market manipulators.
4. After which, proceed to sell the stocks, causing a huge down trend.

(Note: These are not the formal standard of procedures defined by them, but were empirically observed by the team.)

2 Aim of Project

Definition of BANG: The top 4 most popular MEME stocks on WSB, includes Blackberry (BB), AMC, Nokia (NOK) and Gamestop (GME).

The evolution of MEME stocks adds unnecessary uncertainties to the stock market. It causes traditional traders who rely on logic and reasoning to sustain heavy losses. Hence, in this project, we aim to develop an end-to-end system that can predict the price movements and eliminate uncertainty to a large extent.

To elaborate, we seek to scrap WSB Reddit for their readily available data which are the posts made by the users, along with the number of comments and scores. The posts are further processed with sentimental analysis to retrieve sentiment scores. With this data, we will train an AI model to predict the price change of a BANG stock in the next trading day. This is similar to stock market

predictions but on a much smaller scale that only focuses on BANG stocks. Also, unlike other stocks where the stock becomes popular on social media after its price rises, BANG stocks tend to be discussed on the WSB Reddit page before its price rises (artificially).

The predictions and data are interactively displayed to users on our graphical user interface, further referred to as our webpage, enhancing usability and closing the end-to-end system.

3 Dataset

3.1 Web-scraping: Input Data

author	create_time	id	title	post	comments	bb	amc	nok	gme	any	score	ratio	sentiment
KyPatriots	13-05-2021	;nb0fwz	houston we hi amc 095€ 095€	i like	1	FALSE	TRUE	FALSE	FALSE	TRUE	1	1	4
Maestro54	13-05-2021	;nbogli	extremely wei hellloooooowwww i hi		0	TRUE	FALSE	FALSE	TRUE	TRUE	1	1	-4
TheHeftyA	13-05-2021	;nbokvx	gme update - i in at \$182 with a coo		1	FALSE	FALSE	FALSE	TRUE	TRUE	1	1	-2
feathemo	13-05-2021	;nbocow	today's am i have these two tren		129	FALSE	TRUE	FALSE	TRUE	TRUE	378	0.92	8
shaiva	13-05-2021	;nbough	what brokerag hi all, the title pretty i		1	FALSE	FALSE	FALSE	TRUE	TRUE	0	0.5	9
alkamashi	13-05-2021	;nbobzg	what caused a i bought in that's		6	FALSE	TRUE	FALSE	FALSE	TRUE	1	0.67	5
alkamashi	13-05-2021	;nbobzh	what caused a i bought in that's		0	FALSE	TRUE	FALSE	FALSE	TRUE	1	1	5
zalmokis9	13-05-2021	;nbp54v	which one of y ​ https;		0	FALSE	FALSE	FALSE	TRUE	TRUE	1	1	0
jenny_bob	13-05-2021	;nbpma	amc bag holde after months of bag i		2	FALSE	TRUE	FALSE	FALSE	TRUE	2	1	8
captaintur	13-05-2021	;nbp4k	gme institutor did anybody catch th		0	FALSE	FALSE	FALSE	TRUE	TRUE	2	1	-3
Gutierrezjr	13-05-2021	;nbp7l	gme down 309 every day i see posts		18	FALSE	FALSE	FALSE	TRUE	TRUE	0	0.3	6
PerfectOr	13-05-2021	;nbp95	god recently in dd done. name check		2	FALSE	TRUE	TRUE	TRUE	TRUE	2	1	0
Odinson80	13-05-2021	;nbpq5	you're all idiot do you morons not re		39	FALSE	TRUE	FALSE	FALSE	TRUE	0	0.14	-8
Constructi	13-05-2021	;nbpstd	amc buy or sel hey, just bought amc		2	FALSE	TRUE	FALSE	FALSE	TRUE	2	1	-5
Legitimate	13-05-2021	;nbp5yo	amc to the mc we got this fellow ap		0	FALSE	TRUE	FALSE	FALSE	TRUE	2	1	0
Dangerboy	13-05-2021	;nbp0m	amc short terr want to hear y“all		0	FALSE	TRUE	FALSE	FALSE	TRUE	2	1	9
TheBlackf	13-05-2021	;nbp63f	time to sell tsl elon musk is unstable		669	FALSE	TRUE	FALSE	TRUE	TRUE	836	0.69	-6
roman_ax	13-05-2021	;nbpbcm	let's revive the ​ [the g		12	FALSE	FALSE	FALSE	TRUE	TRUE	0	0.5	10
phillythom	13-05-2021	;nbpq3c	\$8,800 to \$25, tldr: i don't have dial		1	FALSE	FALSE	FALSE	TRUE	TRUE	2	1	5
jeffro131	13-05-2021	;nbpqau7	when is the sq when do i start to coi		0	FALSE	TRUE	FALSE	FALSE	TRUE	1	1	0
fidooflores	13-05-2021	;nbpbr3	quick n simple in mv opinion i think s		0	FALSE	FALSE	FALSE	TRUE	TRUE	1	1	9

Figure 3: Reddit web-scraping data

First, we scrape data from Reddit using the pushshift³ and Python Reddit API Wrapper (PRAW)⁴. The dates to scrape are limited to only in the year 2021 as WSB is a trend that only gained international attention in January 2021 when Gamestop was first squeezed. This gives us the data as shown in Figure 3. All posts with no mentions of any BANG stocks will be removed so as to exclude irrelevant information from the model. The features that we will be specifically analyzing are the accumulated average score of the post, the number of comments, the ratio (the percentage of total votes that were upvotes) and sentiment score of the post.

³<https://github.com/pushshift/api>

⁴<https://towardsdatascience.com/scraping-reddit-data-1c0af3040768>

3.2 Web-scraping: Output Data

GME	High	Low	Open	...	Volume	Adj Close	Name
Date				...			
2020-06-29	4.520000	4.300000	4.350000	...	2131200	4.380000	GME
2020-06-30	4.510000	4.200000	4.330000	...	3889000	4.340000	GME
2020-07-01	4.500000	4.310000	4.310000	...	2303700	4.440000	GME
2020-07-02	4.510000	4.290000	4.490000	...	1887600	4.290000	GME
2020-07-06	4.340000	4.190000	4.310000	...	2140900	4.240000	GME
...
2021-06-22	225.880005	209.169998	217.729996	...	8200200	220.399994	GME
2021-06-23	222.570007	214.119995	221.449997	...	3555100	219.339996	GME
2021-06-24	227.449997	211.600006	221.160004	...	3863300	212.309998	GME
2021-06-25	214.199997	198.500000	214.000000	...	12669300	209.509995	GME
2021-06-28	224.369995	210.300003	211.250000	...	2759328	214.693298	GME

[252 rows x 7 columns]

Figure 4: Stock data scraping from Yahoo!

Next, to get the Y, or model output, which indicates the stock’s movement, we will scrap Yahoo’s stocks data using yfinance as shown in Figure 4, also attached as get-stock-data.ipynb. From the data, we define Y (percentage change) as the closing price minus the opening price as a percentage of the opening price.

3.3 Sentiment Analysis

After obtaining the data, we wanted to incorporate the element of sentiments and emotions to help the neural network predict the stock. We also speculate that sentiments of the posts could have a large part to play in predicting whether a stock would boom or not, as memes are often close to the human heart. Hence, we utilised Valence Aware Dictionary and sEntiment Reasoner (VADER), which is a lexicon and rule-based sentiment analysis tool that is specifically attuned to sentiments expressed in social media.

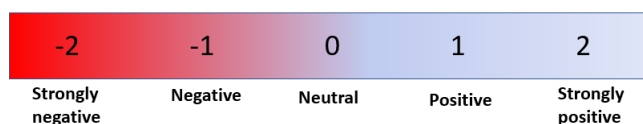


Figure 5: Sentiment indication

VADER returns a range of scores as a float, from -1 to +1. In our case, we used the compound score and wrote our own function to map the score into bins to obtain a sentiment in the range of -2 to +2 where their indications are shown in Figure 5.

However, the pre-trained VADER has its own set of issues. One common setback is that VADER is incapable of detecting sarcasm⁵ or complex ideas.

⁵<https://medium.com/analytics-vidhya/sentiment-analysis-with-vader-label-the-unlabeled-data-8dd785225166>

More importantly, after manually looking at the VADER generated sentiments, we noticed a lot of discrepancies. A sample of it is shown in the appendix. Of the overall data used for sentiment analysis, about 70% of the sentiment scores are not accurate or agreeable by us (Accuracy of VADER-labelled sentiments is only 30%). As such, we conclude that the sentiments cannot be fully dependent on VADER. Thus, a different approach was taken by the team.

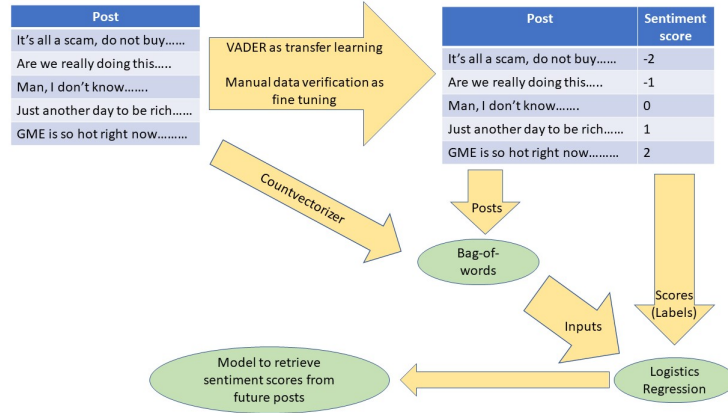


Figure 6: Sentiment analysis pipeline

VADER is used as a form of transfer learning where we get the sentiment scores of the post using it, followed by the team's effort to personally verify the sentiments (Fine tuning), thus obtaining a ground truth for the sentiments.

sklearn's CountVectorizer was also used to convert a collection of text documents to a matrix of token counts which can be input into a model. This bag-of-words approach is pretty crucial in our context as the posts from WSB contain many unique words/slang not found anywhere else, such as apes, diamond hands and paper hands etc. As such, it is imperative to train our own vectorizer instead of relying on pre-trained embedding which will give weird results.

The verified sentiment scores, along with the post, are fed into a few models such as logistic regression, XGBClassifier, as well as SGDClassifier to train them to be able to pick out sentiment scores from future unseen posts. The best performing model has a f1-score of 50%, which came from the logistic regression model. This is an acceptable result considering that sentiment analysis is very subjective. More importantly, the model performs better than VADER, which only has an accuracy of 30%. The confusion matrix can be found in Figure 7 below, showing confident predictions of the extreme sentiments (-2 and 2).

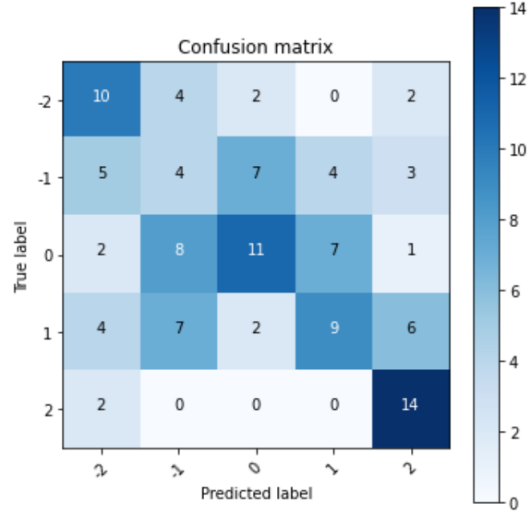


Figure 7: Confusion matrix

4 Neural Network Model

4.1 Model Architecture

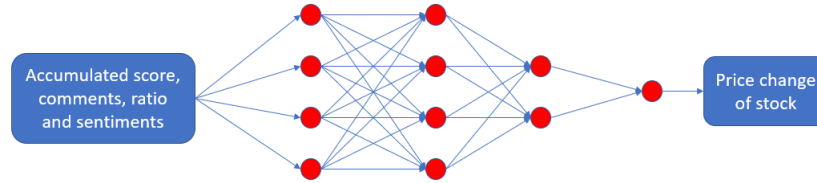


Figure 8: Model architecture

In the code `train-nn.ipynb`, we create a vanilla neural network model shown in Figure 8 that primarily consists of fully connected layers. The model will train on the past 6 months data as mentioned above and develop the capability of predicting the price change for BANG stocks on a daily basis.

Due to the relatively small amount of features and data, using a complex model will result in overfitting. Thus, we omitted dropout layers and used a small number of hidden layers and neurons.

4.2 Results and Evaluation of Model

The loss function used for backpropagation is mean squared error as the model is essentially a regression model and the model trains well where it shows decreasing loss after every iteration. For a model that predicts a stock's daily

movements, it is an impressive achievement as similar existing models don't usually perform well due to the high volatility of the market. Furthermore, we are focusing on MEME stocks in this project and an article on [towardsdatascience](https://towardsdatascience.com/could-machine-learning-have-predicted-gamestop-madness-aae8d9f7f77e)⁶ has outlined the difficulties of any analysis and even claimed that it was impossible to predict a MEME stock.

$$\text{Same-sign Accuracy} = \frac{(\text{Prediction and Label both positive}) + (\text{Prediction and Label both negative})}{\text{Total Data}}$$

Figure 9: Same-sign Accuracy

To further evaluate the effectiveness of the model, we compute the accuracy of direction of the price change as an additional metric. To elaborate, if the model's prediction and the actual price change data both have the same sign where they either both increase or both decrease, the same-sign accuracy increases. On average, the test set performs well with a same-sign accuracy of 60%, which means that the model predicts the direction of the stock movement correctly 6 out of 10 times.

This implies that if a stock trader blindly follows our recommendations for BUY/HOLD/SELL, the trader will only lose money 4 out of 10 times. This is, in fact, an impressive feat, assuming that the market conditions stay constant.

5 Deployment

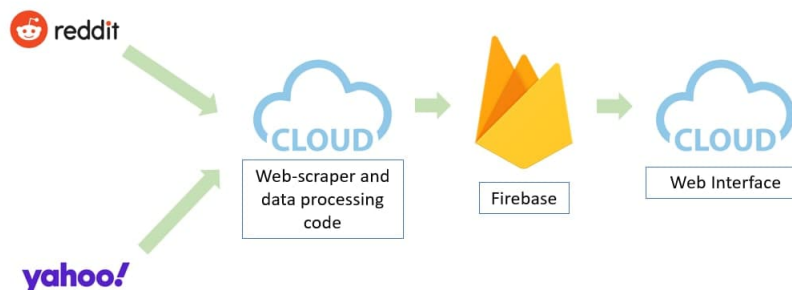


Figure 10: Deployment architecture

The code for web-scraping and processing will be hosted on the cloud, where it will scrape the web for data and transmit the information to a Firebase database. The webpage is separate from the model code, and is hosted on a different cloud service which is delegated to simply serve web pages.

⁶<https://towardsdatascience.com/could-machine-learning-have-predicted-gamestop-madness-aae8d9f7f77e>

5.1 Deployment code

Daily Timeline (Weekdays)

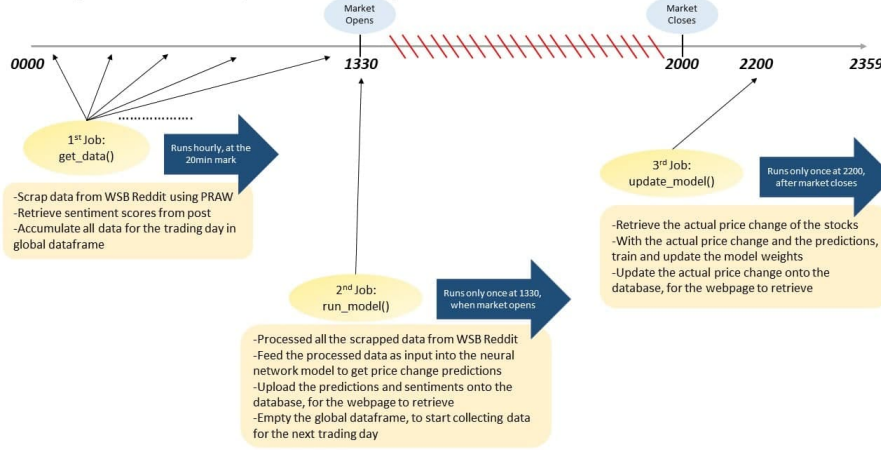


Figure 11: Deployment pipeline

The deployment code pipeline is shown in Figure 11 above. The scheduler ensures that the model is not run on weekends, where the stock market is not open. It can be deployed on the cloud using (for example) a Google Cloud Platform instance. It would schedule three different jobs to be run at different timings.

The first job, `get_data()`, would run at the 20 minute mark every hour, and retrieve data by web-scraping `r/wallstreetbets` on Reddit. The retrieval of data needs to be run hourly to circumvent the limitation from PRAW where it can only query the latest 1000 posts. By running it hourly, we can ensure that all relevant data are effectively retrieved for consideration every day.

The second job, `run_model()`, would run at 1.30pm GMT, when the market opens. It would process the data, pass it through the deployed model, and finally upload the predictions and sentiments onto the database.

The final job, `update_model()`, would run at 10pm GMT (2 hours after the market closes). It will retrain the model on the day's data in order to ensure robustness, as well as allow the model to improve over time.

5.2 Webpage

With the model trained, the code will be deployed onto the cloud where it can run by itself daily and publish its results onto a webpage.



Figure 12: Overview of graphical user interface (webpage)

The graphical user interface (i.e the webpage) parses the data obtained from the Firebase database and displays them for the trading day selected. Below the trading date shows our predictions for the BANG stocks based on our model. The total number of sentiments for each individual ticker (including neutral sentiments) are displayed along with the number of positive and negative sentiments. The predicted potential upside/downside is also displayed and a “BUY” signal is recommended if the potential price increase is more than 5%, a “SELL” signal if the potential price fall is more than 5% or a “HOLD” signal otherwise, which indicates little to no price movement. We included a stacked bar chart to present a better visualisation of the r/wallstreetbets sentiment by showing the number of positive sentiments and negative sentiments for each stock.

Most Positive Sentiments	Most Negative Sentiments
<p>POST</p> <p>imo always been a great company, but it has mainly been dead money since ipo, they had earnings yesterday: +208% revenue increase yoy +848% net income growth yoy (8.48x) new financial partnership and yada yada. if you're not completely retarded you can find it by yourself practically everywhere, but here's the sweet thing: they also announced a dividend of 1.11\$ per share on the 9th of march and you might ask why is this important, well, let me explain it to you with bullet points: +big money are gonna jump in, 1.11\$ on a price of 21\$ is around 5% return just holding a great stock that...</p> <p>backstory: first of all i want to thank everyone for their contributions in the gme scandal, we truly stand on the shoulders of giants at this moment, we accomplished way more than expected, so much excellent dd has uncovered so many things and taught millions of people the inner workings of wall street, who would've thought a collective hive mind of retail investors could compile a dossier of due diligence comparable to the greatest teams of analysts at citadel? not me, but it happened anyway, so here we are, 2021, bigger than ever, smarter than ever, more learned than the learned leamest of...</p> <p>**to incentivize good answers, if someone gives a good explanation to my questions, and the price of gme hits 2000, then i swear to get a diamond hand tattooed onto my back by june of this year.** ok, so i've been in this since the middle of january, roundabouts and i've gotten a pretty good increase on my shares of amc and gme especially, still holding, and not selling, but one thing i don't really ever see on here is an explanation of how to sell our shares once we achieve the squeeze and reach the moon, when we hit that 10,000+ sweet spot, how do i sell my shares? i'm a fidelity noob, nearly mint...</p>	<p>POST</p> <p>are we still hodding?? i'm broke, i lost my best friend, my girl left me, i haven't seen my kids in days, & i literally have zero funds to buy alcohol to drown sorrows, yet i'm hodding, i was told this is the way, but, is it ??? the struggle is real.</p> <p>i thought i read a post about a month ago listing wallstreetbets or apes who are legitimate when it comes to "meme stocks" but can't locate it, i understand they are not finance advisors, but they aren't feeding you a bunch of crap, currently i am following: trays trades, matt tohrs, jackson hunter, the masked investor, roensch capital, matthew perry, nick finance and kong, all, for the most part, are currently amc or gme 24/7, i don't like to put all my eggs in one basket and i'm ready to branch out a little, who do you trust? you literally can't see the forest for all the fud that's popping up on...</p> <p>i can't buy gas to fill my car, i can't stop at taco bell or mcdonald's, i can't even buy beer to drown my sorrows, my best friend is gone, my girl left me, i have not seen my kids in days, & i'm depressed, are we hodding & i still saying??? i was told that this was the way, but is it ??? i'm hodding!  but are you ??? are we apes banded together, or is it all a pipe dream ?? depressed & broke just asking an honest question. </p>

Figure 13: Most positive and negative sentiments for the day

In addition, we also displayed the most positive and most negative sentiments for the day. This allows the user to have a quick sense of the extreme posts for each day, instead of having to run through the lengthy Reddit page. The top 3 sentiments are determined by the sentiment scores from the sentiment model.

6 Setup and Deployment

Broadly speaking, the steps required to replicate our results are as follows:

1. Create a Reddit account and a Reddit app in order to obtain API keys for PRAW.
2. Create a Firebase real-time storage and obtain the necessary API keys.
3. Clone the Git repository (<https://github.com/Mickey1356/sutd-ai-project>).
4. Fill up the .env files with the above credentials.
5. Navigate to the development folder. The README file details instructions to run the necessary scripts and notebooks.
 - (a) As the notebooks were run on Google Colab, it is highly recommended to use that as well.
6. After which, copy the `bang_model` weights and the `sentiment.pkl` file to the deployment folder.
7. Lastly, run the deployment script in the deployment folder and the webpage code on the cloud.

To setup the code in order to run the webpage, execute the following commands (instructions also available in README):

1. Navigate to the webpage folder.
2. Replace the placeholder values in `src/pages/Dashboard.js` with your Firebase credentials.

3. Run `npm install` to install all package dependencies.
4. Run `npm start` to run the application in development, open `http://localhost:3000` to view it in your browser.
5. For deployment, run `npm run build` to bundle the application in production mode and optimize the build for the best performance.

7 Comparison with existing products

Product 1: MooMoo trading app⁷ in Singapore

The MooMoo trading app from Futu holdings is one of the fastest growing online trading platforms and commands a 15 million-strong, collaborative global investor community. It is especially popular in Singapore due to its sign-up perks and easy usability. Hence, MooMoo is a good benchmark for us to compare with.

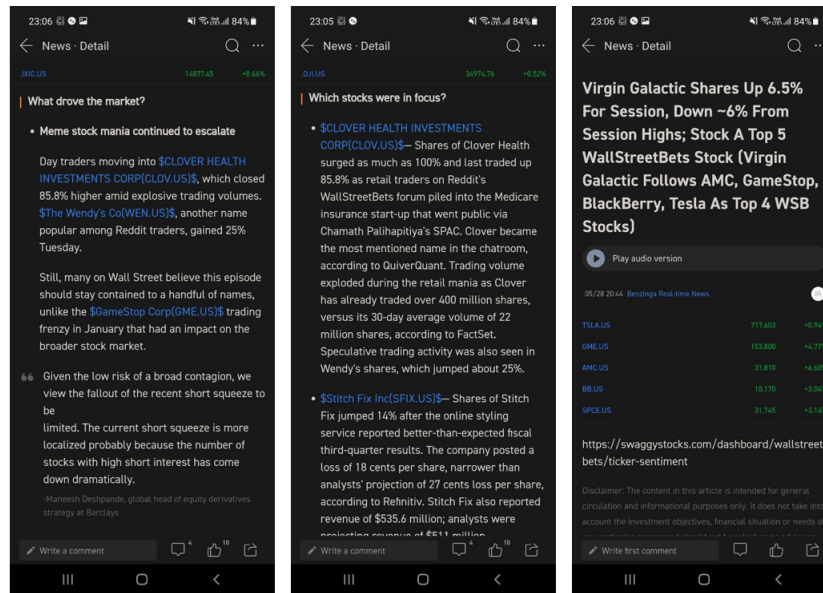


Figure 14: Screenshots of the app's broadcast

As seen from Figure 14, the MooMoo app updates its user about meme stocks' movement in the form of paragraphs and essays. It does not contain any form of predictions or learning. The main selling point is the in-depth analysis of the stock's history as well as viewpoints of established experts.

⁷<https://www.straitstimes.com/branded-content/asias-leading-investment-platform-thrives-in-singapore-while-eyeing-the-south-east>

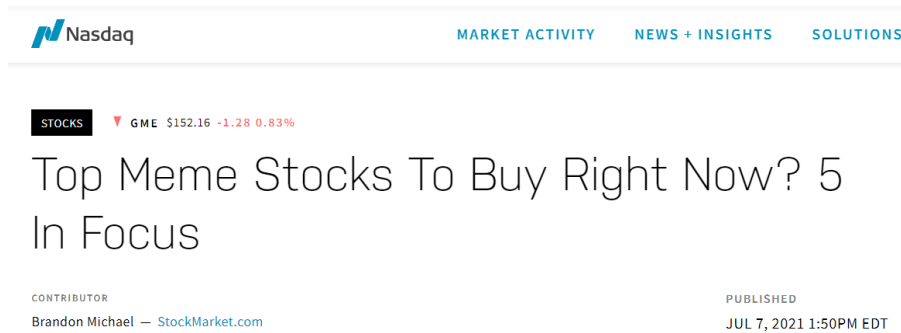


Figure 15: Nasdaq article

Product 2: Nasdaq, the world's first electronic marketplace for buying and trading securities.

Nasdaq releases articles frequently regarding analysis of MEME stock and WSB. The article displays an extremely comprehensive research into the stocks and its companies, up to the point where the future plans of the companies are elaborated on. However, there are no educated predictions nor analysis on the Reddit page which ultimately started the whole trend of meme stock.

To sum up, the overall comparison table can be seen below:

Comparison aspect	WSB analysis project	Moomoo App	Nasdaq
Stocks coverage	Only BANG stocks	All meme stocks	All meme stocks
Frequency	Daily	Infrequent	Infrequent
Price predictions	Fairly accurate	None	None
In-depth stock analysis	None	Yes	Yes
WSB Reddit analysis(Crowd sourcing)	Comprehensive	None	None

From the table, it can be concluded that the project is on-par with existing products from the industry and even out-performs them in some aspects. Thus, the project has relevance for stock traders to leverage on.

8 Future works and conclusion



Figure 16: Left - Naked, Right - Corsair

For future works, we can explore other MEME stocks such as Naked and Corsair gaming which are rising in popularity nowadays. In the aspect of usability, we can develop a mobile app that mimics our webpage to provide convenience for smartphone users.



Figure 17: A post with a picture that implies negative sentiment

For data processing, we can analyse every single comment for each of the posts and use those comments to compound the overall sentiment. The pictures attached to the post as shown in Figure 17 are not analysed in this project and it's important that we make use of it for future works by conducting computer vision concepts on it to get more sentiment data. These will definitely add on to the model's predictive capability and increase the accuracy of the price output but large amounts of computing resources will be required.

To conclude, our model is somewhat effective in an extremely unpredictable environment and our webpage fulfills all the basic features required. However, more work can be done and the market can be analysed with more scrutiny. We hope our work can inspire more people to learn about investing in stocks and inspire other computer scientists to venture into this challenging and ever-changing field.

9 Appendix

The table below shows samples of posts where the pre-trained VADER sentiment analysis are incorrect in retrieving sentiment scores. The correct score is in the left most column for reference. The posts are quite subjective and the team has collectively agreed on the scores, thus producing a database to train our own sentiment model.

Index	Post	VADER- labelled sentiment score (Incorrect)	Manual labelled sentiment score (Correct)
1	we need to understand that our victory is guaranteed as long as we hold. hedge funds can only win if they break us psychologically and make us sell. we definitely win if we hold, but they have to hope we sell to win. understand this! the tricks they pull are: 1) make you buy other stuff - distraction with other "recommended" stocks to reduce buying power in amc and gme 2) prevent you from buying - use news to say amc and gme are dangerous ("analysts" against them) 3) reduce price - short attacking amc and gme stocks to reduce price (but they can't do this unlimited) 4) manipulate data - create a fake appearance that they're covering there may be other ways they're manipulating, but stop falling for them! the fact is, you don't have to do anything other than buy and hold. really. it's that simple.	-2	0

2	so my wife texted me a picture stating that some customers came in her restaurant and left her a tip of 300,000 vietnamese dong. i understand that inflation seems to be on the horizon, but why would they tell her it could spike soon. both of them were in their 70s and i don't know if they are just mad bag holders or what. i know you guys will be trying to give gme shares away at 70 saying it'll spike soon, but is there something specifically unique about the vietnamese dong that isn't relatively public or even known about? here is some more random bullshit so the mods won't delete for it being too short. bee doo bee doo gme, amc, clov, wkhs, sava, bb.	-2	1
3	not sure if anyone else noticed that these are in the top 4 invested in most of the recent meme stocks (wish aside)... couple other firms are in a few but i'm sauced so that will have to wait pltr crsr gme clf wkhs amc bb(vanguard is 4th, no black-rock), clov clne no idea what this means i'm just a dumb ape trying to figure out how calls work to make sweet tendies and avoid the wife changing losses. disclosure: i have stock in clne and bb right now.. so moon those fuckers!	-2	0
4	get it on this dip. dont get left behind! you'll be kickin yourselves. gonna break \$15 today! has an earnings beat and gets downgraded!!!! what!? just another example of the street trying to kill the revolution!!!!	-2	2
5	do you think that the sec is gonna do us dirty once the stock price hits an uncontrollable price? they've done it before with other stocks. let me know what you think.	-1	1

6	blackberry monopoly in car modules + asil d certification blackberry has a monopoly in the autonomous car modules and critical modules (brake system, accelerator system, modem, back camera, etc) because they hold asil d certification that no other real-time operating system can attain. this is why they won every oem! even tesla uses qnx in their modules they buy from other providers. blackberry qnx + cylanceblackberry went ahead and integrated cylance ai(industry leading) into qnx two years ago so basically it's the only operating system that has cybersecurity built inside and is the only os(with cybersecurity) that runs on cars, drones, trucks, medical devices, iot. you can't run crowdstrike or mcafee on cars!! in short... institutions know this data and that's why blackberry has high institutional ownership! hedge funds are dumb and shorting because they were taking advantage of the transformation period of blackberry from hardware to software! f them!!! 19	-1	-2
7	hello everyone!! i lost 20k by investing a meme stock last friday and now i do need a stock recommendation to get my 20k back. what stock would you recommend ? should i all in bb? i am not joking and need serious advice	-1	0
8	\$sos is being shorted more than amc. \$sos has short ratio of 24% while amc is sitting at 21% now. fundamentally \$sos is undervalued and being absolutely crushed by shorts. thoughts on this?	-1	0
9	personally i think amc is overdue for another boom and i'm surprised that i don't see many people post about it anymore in this community	0	1
10	went to close my robinhood account, but there was \$1.05 that they gave me for signing up. i'm letting it ride... to the moon!	0	1

11	finally joining this subreddit cause of peer pressure. this \$crsr call was my second 2000% option this year, with \$amc being the first when it went from \$4 to \$20 overnight post-gme. i tried to buy 20 contracts at 2:57 pm that day, but the market makers wouldn't let it happen.	0	-1
12	my girl friend bought me a ps4 controller for my birthday. when i opened the box there was rubber controller grips for 18\$â€ anyways i hate wish they are a shitshow of a company and i would love to see the whole corporation become bankrupt. anyway we can inflate their shit and all sell out like gamestop?	0	-2
13	its payback time for robinhood. they will be paying 70 million usd in fines. a new record. lol. finally robinhood is paying for stealing from retail traders during the gme squeeze. more than the fine, the timing of it is going to effect robinhood as they prepare to file for ipo.	1	-2
14	so i got an email that said something something something all the \$75p \$amc contact's you sold have been assigned. and my day trade buying power is suddenly showing up as -\$1,000,000 with a cash balance of \$0. also i can't view any of my positions/balances but the td website is currently "under maintenance" at the moment. my question is, are the rest of you retards unable to see your account balance and positions or do i need to go grab some rope? https://imgur.com/gallery/wlvpcyh (insight: it was a \$75/\$80 put debtit spread... i think. so the \$80 should have been exercised as well.. probably)	1	-2

15	i just found out that amc was added to the security threshold list yesterday. mean hedge funds will have to cover thier naked shares within 13 day. buy harder than you've bought before. https://www.sec.gov/investor/pubs/regsho.htm https://www.nyse.com/regulation/threshold-securities	1	2
16	here are my questions: 1. should i invest in stocks or invest in a mutual fund 2. what did you start with and what do you have right now? 3. what platform(s) do you use? 4. why does bb look so promising?	1	0
17	hi there, i have basically started out stocks for jus about 1 day and have been watching youtube guides on stocks and learning the basic fundamentals of it, i was wondering what the best stock was to purchase long term hodl and what is the best broker to use, im from the uk so i am accessible to trading212 , etoro but the waitlist is crazy and busy so i haven't got accessed just of yet. i was just concerning what are the best stocks out there to invest into for long term maximum gains ? i have heard of palandir, churchill, apple, tesla, amc but i don't know as of which one yet, in addition , im on a budget so i don't wanna spend a crazy amount so i wouldn't even mind a good penny stock but lets c what the public has to say. &x200b; i would appreciate the help and support.... thanks	2	0

18	again, disclaimer for the 9 million idiots who joined wsb since the new year, this is not a sq***ze play and if youâ€™re looking for one you can head somewhere else. what is autohome? autohome is a chinese holding company founded in the late 2000s that provides online platforms for dealers and people selling used cars. their websites are a medium for car sales, used or new. they also profit off of advertising, financial services for these sales, and offer data analytical tools for sales and marketing solutions to their automaker and dealer customers. their data products consist of automaker data products such as intelligent r&d, intelligent new car launch, intelligent marketing, and intelligent activities and end-to-end saas-based services to dealers, such as intelligent showroom, smart dcc (direct call center), smart call out, smart assistant, smart sales, and smart aftersales. their market cap sits just shy of 10 billion, although iâ€™ll get more into their fundamentals in just a moment. whatâ€™s the case? well first off, to give some context to the numbers iâ€™m about to throw out, hereâ€™s a quick look at ... (omitted for brevity)	2	-1
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19	not sure if this has been talked about much but here's my 2 cents. i have been doing quite well on meme stocks the last few months along with the majority of you. except you options apes, *my god you filthy animals* i understand we're sticking it to the hedgies, but does ev- eryone realize, us wsb apes, pooling to- gether on certain pharmaceutical com- panies could quite possibly give them enough capital to further their research to let's say cure cancer or what hits home to me is finding a cure for cystic fibrosis (my baby girl) or finding a way to reverse multiple sclerosis (my wife) i say we quit giving already wealthy ceo's lambos and instead, throw some tendies in our pock- ets and find cures to save a loved ones life. if we can do what we've done to let's say gme or amc's market cap, imag- ine how far we could advance research on something that we'd give everything we have to keep. quit pumping and dump- ing these therapeutics companies like a bunch of paper handed nancies. just pick a handful of the most promising compa- nies n change the world. your thoughts?	2	-2
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20	<p>i am still hodling 150 amc. my wife was ready to leave me because i was so engrossed in reddit that she felt ignored. i wish she would have just left because then i could try to fix things. she died tragically in a car accident on the morning of june 2nd. iâ€™d give it all back and more to have her here. i deleted my account after she passed and iâ€™m deleting this one soon because she was right i need to get off here and live. i am just an old man who misses the love of his life on a physically painful level. i understand the adrenaline rush you feel when you read all this is incredible. i felt it too. buy that dip and sell when you feel itâ€™s right but you donâ€™t need to watch and read every little piece of information. get off here and give that energy to love. i could have still had my \$167k and more quality time in these last years with my wife if i glanced at my stock app once a day and courted her more. from an old man to people i donâ€™t know but i feel like are old friends, go enjoy your fancy cars but make sure you are taking care of the one who will be riding shotgun when you get there.</p>	2	-2
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