

r/Wallstreetbets

Social Media Analytics

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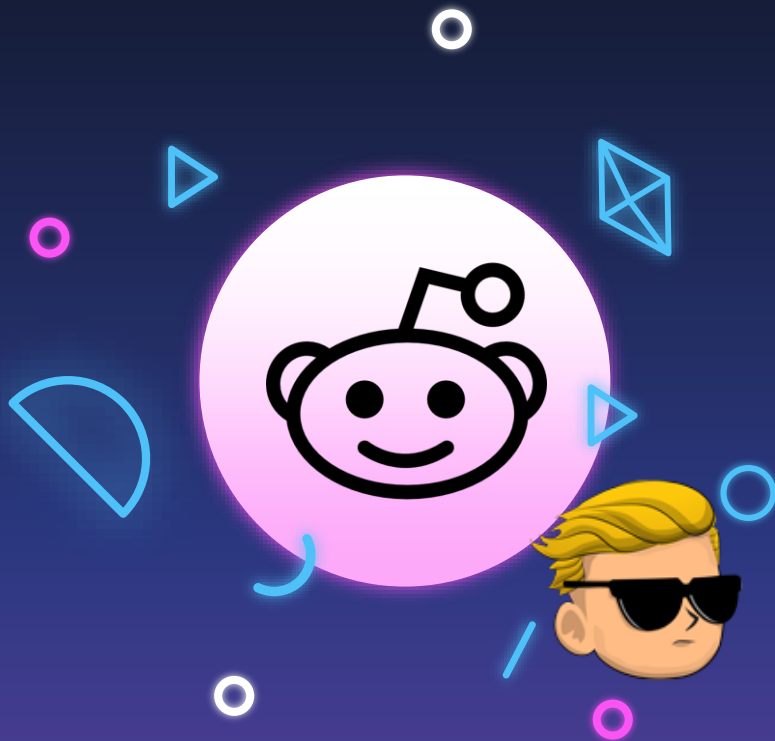
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Conclusions

Background

- Reddit is a prime source of data for performing analysis
- Rogue traders from r/WallStreetBets decided to take revenge on Wall Street hedge funds
- Rode GME to the moon.
- Wall Street and traditional day traders took a big blow
- GME stock increased by over 1100%





Project Goal

- Understand and calculate the sentiment of users towards the comments in the r/WallStreetBets subreddit regarding GME during January 2021.
- To create a network using Gephi based on posts and sentiment to get a better visual understanding.
- To analyze the most upvoted posts and important users to gather insight on how they affect the other users and the community. This data may be analyzed by companies such as RobinHood on a regular basis to prevent future stock closures and be prepared.

Game Plan

Scraping Data

Created
Scraper

Sentiment
Analysis

Explored
best model
for our data

Visualize

Network
Creation
Using
Gephi

Scraping Data

We built a Reddit scraper to scrape r/WallStreetBets and retrieve the features that we were interested in running our analysis i.e.

submission	author	body	score	created	url_of_post						
l78uct	bagocsabi	And once again!	10283	1611868057	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	StonkGoUp	THE KING HAS SPOKEN **HOLD** 5Y!	27291	1611868013	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	I-wil-rate-your-tits	HE FUCKING HELD WHAT A LEGEND	22344	1611868008	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	serqus	I'm not even worthy to be writing a	25386	1611868033	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	Coral_Bones	YOU	7278	1611868005	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	Tryle	DIAMOND FUCKING HANDS BOYS HE'S	17549	1611868021	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	milkiski	IF HE'S STILL IN, I'M STILL IN	10923	1611868011	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	CartwheelingMarmot	The real Robin Hood was /u/DeepFucking	29930	1611868114	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct	Mahomeboy_	IF	9390	1611868007	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						
l78uct		[deleted]	18313	1611867999	/r/wallstreetbets/comments/l78uct/gme_yolo_update_jan_28_2021/						

Sentiment Generation for Comments

Three types of sentiment creation methods:

1. VADER sentiment analysis
2. TextBlob
3. VADER on words near 'GME'

	sentiment	sentblob	gmesentiment
submission			
kwpviw	0.110214	0.029226	0.010198
l2x7he	0.106789	0.025275	-0.004919
l4sg3u	0.052398	0.026119	0.002137
l4xje1	0.129493	0.046272	-0.001790
l5nphz	0.033925	0.014399	0.006742
...
l5aiv5	-0.031654	-0.002201	0.017498
lsgv43	0.132679	0.063093	0.001545
lsu313	0.030500	0.025400	0.000000
lt7v4w	0.126013	0.038519	-0.001006
lu5dvw	0.121827	0.095342	0.000000

Positive Sentiment - Popular Posts

Posted by u/wallstreetboyfriend WSBF 4 months ago

85.4k 259 6 3 2 306 305 291 4 4 2

GME Overnight Pajama Party Megathread

Discussion

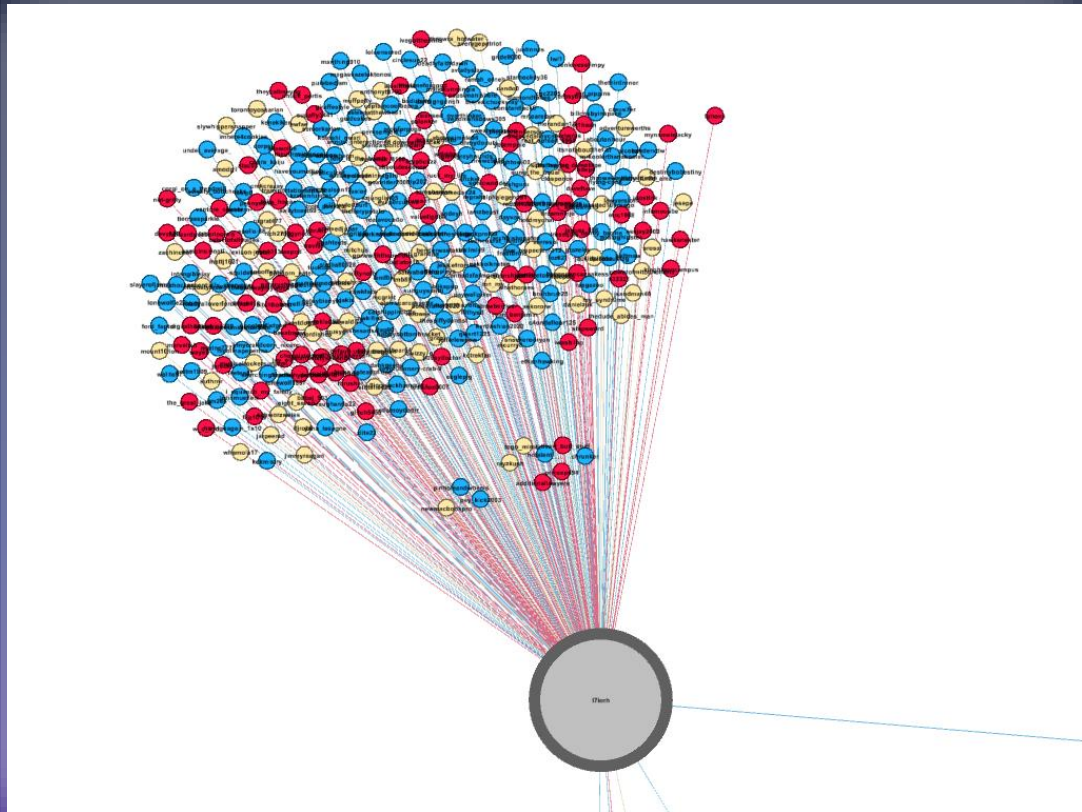
Yo, health check time:

- Get proper sleep
- Eat proper food
- Stretch occasionally
- 💧 HYDRATE 💧

I'm sure we've all been glued to our screens all week, but please make sure you take care of yourselves.

If you promise to do a good job, we can take turns piloting the rockets 🚀🚀🚀

80.8k Comments Give Award Share Save Hide Report 94% Upvoted



Example Comments from Positive Posts

sentiment1	negative	neutral	positive
submission			
l7iorh	126	140	227
lnqgz8	45	126	144
l97ykd	87	71	130

'Good night everyone. I love you all. I will most likely never meet you irl. Whatever happens, i will never forget this. 🙄🙄🙄💎💎💎💎🙌🙌🙌🚀🚀🚀'

0.9771

'I'm a 60 year old woman with three young adults your age and supporting hubby and them. I'm still working my fingers to the bone and I now have hope for a better life and even to enjoy my retirement if it ever comes. I have enjoyed all of you sassy young men trying for a better life with your self-

0.9746

'Well they are surely going to make a movie someday of all that's happening here, I have no doubt about that. Let's agree we all go see it in an AMC theater when it comes out 🤔'

0.8959

Negative Sentiment - Popular Posts

Posted by u/indonesian_activist 20 days ago

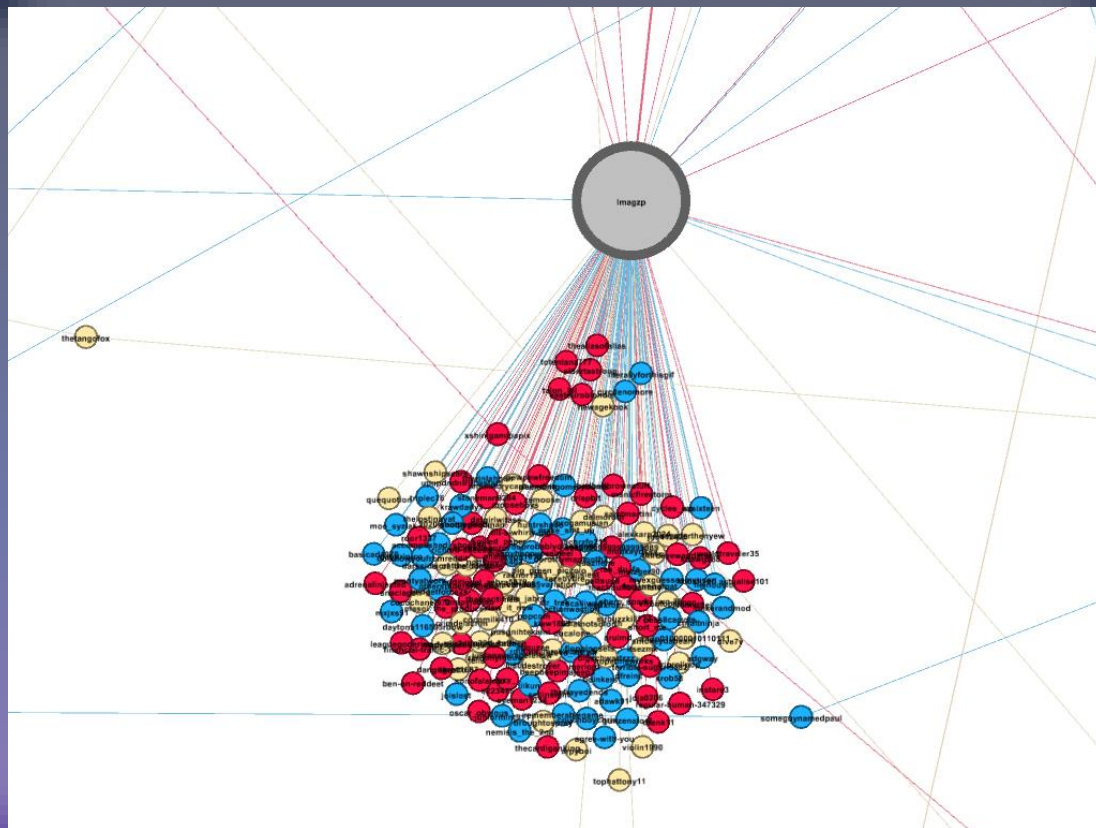
Today, Interactive Brokers CEO admits that without the buying restrictions, \$GME would have gone up in to the thousands

2/17/21 First on CNBC

INTERACTIVE BROKERS CHAIRMAN ON GAMESTOP TRADING FRENZY

their brokers would have had to been obligated by the rules as they are today

8.5k Comments Give Award Share Save Hide Report 92% Upvoted



Example Comments from Negative Posts

sentiment1	negative	neutral	positive
submission			
l7iorh	126	140	227
lmagzp	110	71	98
l8539h	91	82	77

'Hedge funds are NOTORIOUS for RIGGING the game so they can drive Lambos and tell people they made 3% on their hard earned money. And if they lose 10% of your hard earned money, guess what, they still drive Lambos. \n\nOne of the ways they rig the game is order flow. Hedge funds pay for your orders s

-0.9868

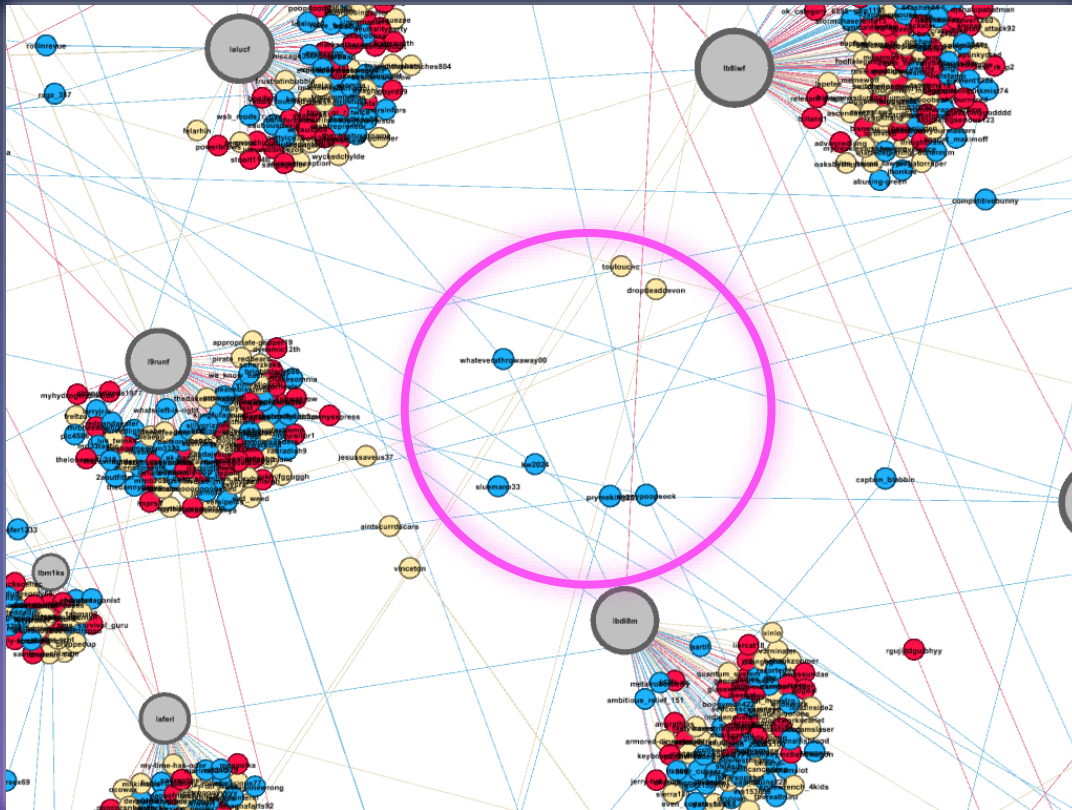
'Is this admissible as evidence that there was a massive conspiracy to keep the price of GME down? That there was "stock manipulation" as they say? Can the SEC and Congress please do their job and punish those who crushed the market by violating their own rules?\n\nGoddamn this is infuriating.'

-0.964

'If a normal citizen steals \$1000 they go to prison on felony charges.\n\nWhen Wall Street steals millions they get a fine.'

-0.9287

Influential Users across Posts



Top Degree Centrality (Fraction of nodes connected to)

145	SoDakZak	0.000992
379	UIUIUIUIUIUIBN	0.000631
4029	melanthius	0.000631
162	beluuuuuuga	0.000631
98	360T-Posed	0.000631

Business Outcomes

Financial Services

Fintech Companies should assess what types of posts and comments are influential both positively and negatively. Helpful from a PR perspective to address controversy early.

Individual Investors

When deciding what to invest in, might be more useful to monitor sentiment and network metrics versus only looking at upvotes.

Future Work and Limitations

Realtime tracking of reddit
user engagement on certain
stocks

Investment
Notifications

Utilizing AI to pick on
r/WSB trends

Robo Advising
Partnerships

They have serious pull in
actual stock market

Hedge Funds

More data means better
insights

Scraping More
Data



Questions?

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