The Power of Elon Musk

Team Members:
Neil Chen (Presenter)
Mackenzie Markham
Abhishek Peri
Ziyu Tang
Saud Alsulaiman

March 15, 2023

UC San Diego

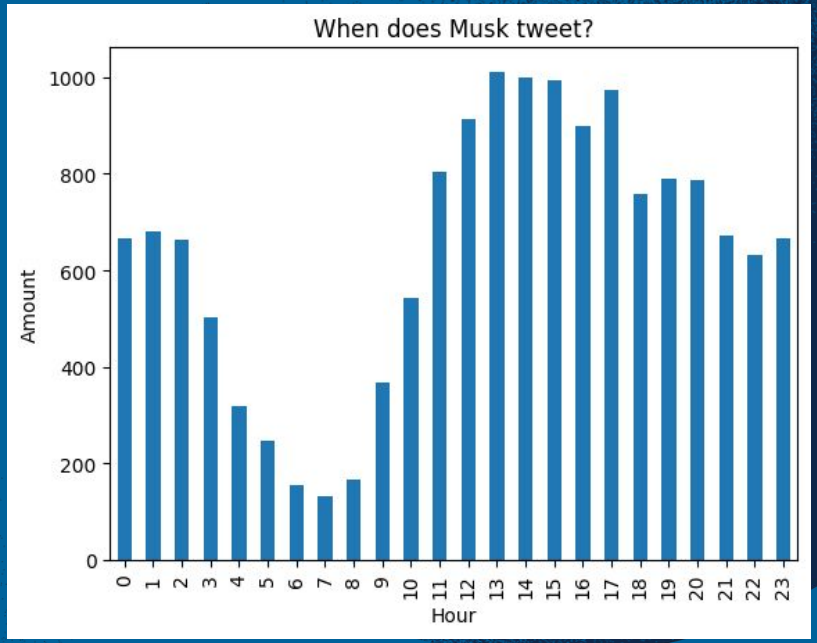
Motivation

- Social Media is really powerful. There are 4.76 billion social media users around world.
- Twitter has around 450 million monthly active users as of 2023 and Musk has 131 million followers.
- Musk's tweets may have influence on the stock market, cryptocurrency and social attention.

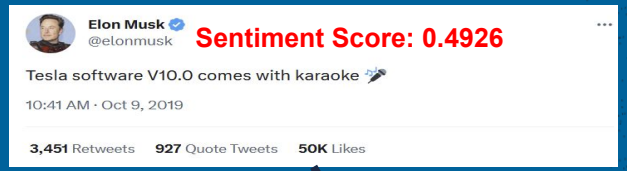
Datasets

- Elon Musk's tweets from 2010 to 2022
  - Tweet Body
  - Date and Time
  - Number of likes
- Keyword Search Volume from Google Trends
  - Give a value of Interest from 1 to 100
- Price
  - Stock Price
  - Price of Bitcoin & Dogecoin

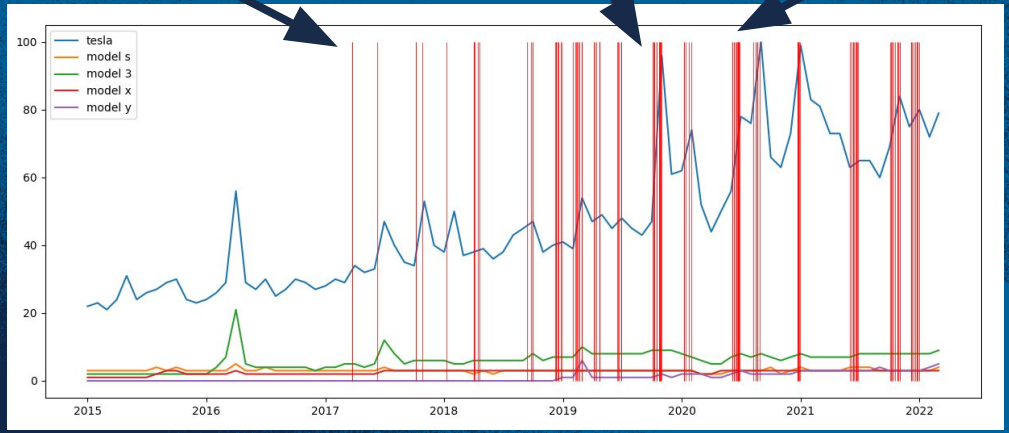
A Fun Fact
Elon Musk Does Sleep!



Tesla



Google Trends



Tesla

Elon Musk @elonmusk

Sentiment Score: -0.0084

Model 3 was going to be called Model E, for obvious dumb humor reasons, but Ford sued to block it, so now it is S3X. Totally different :)

7:26 AM · Mar 24, 2017

10.7K Retweets **1,210** Quote Tweets **35.1K** Likes

Elon Musk @elonmusk

Sentiment Score: 0.4926

Tesla software V10.0 comes with karaoke

10:41 AM · Oct 9, 2019

3,451 Retweets **927** Quote Tweets **50K** Likes

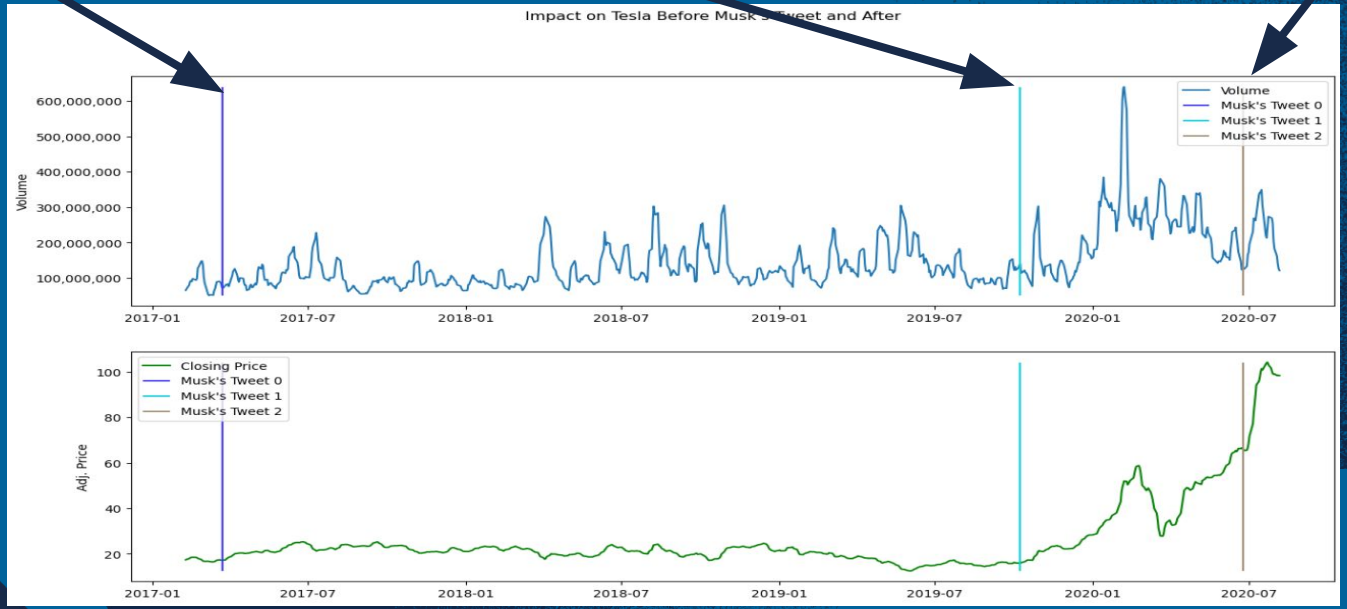
Elon Musk @elonmusk

Sentiment Score: -0.34

Only a matter of time before someone steals a Tesla while playing GTA on a Tesla

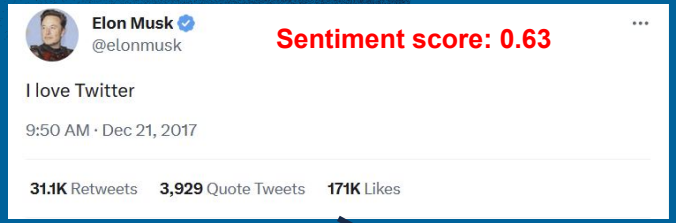
10:57 PM · Jun 25, 2020

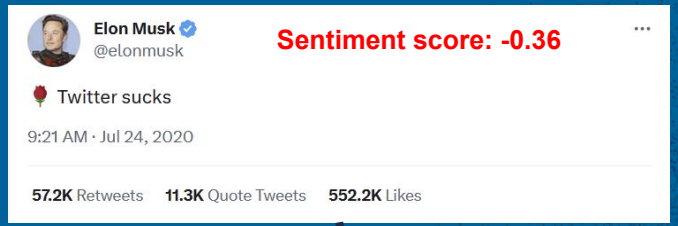
28.2K Retweets **2,027** Quote Tweets **329.9K** Likes



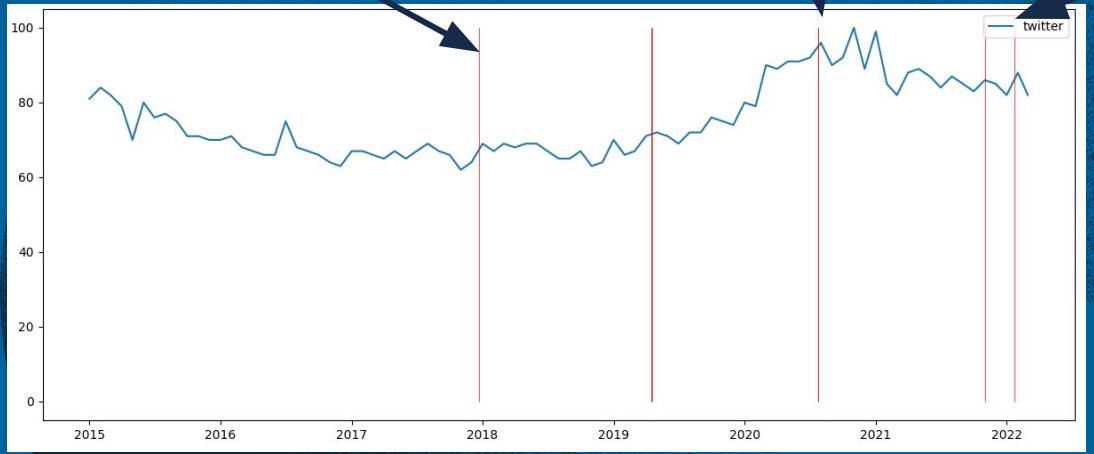
UC San Diego

Twitter





Google Trends



Twitter

Elon Musk @elonmusk

Sentiment score: 0.63

I love Twitter

9:50 AM · Dec 21, 2017

31.1K Retweets **3,929** Quote Tweets **171K** Likes

Elon Musk @elonmusk

Sentiment score: -0.36

Twitter sucks

9:21 AM · Jul 24, 2020

57.2K Retweets **11.3K** Quote Tweets **552.2K** Likes

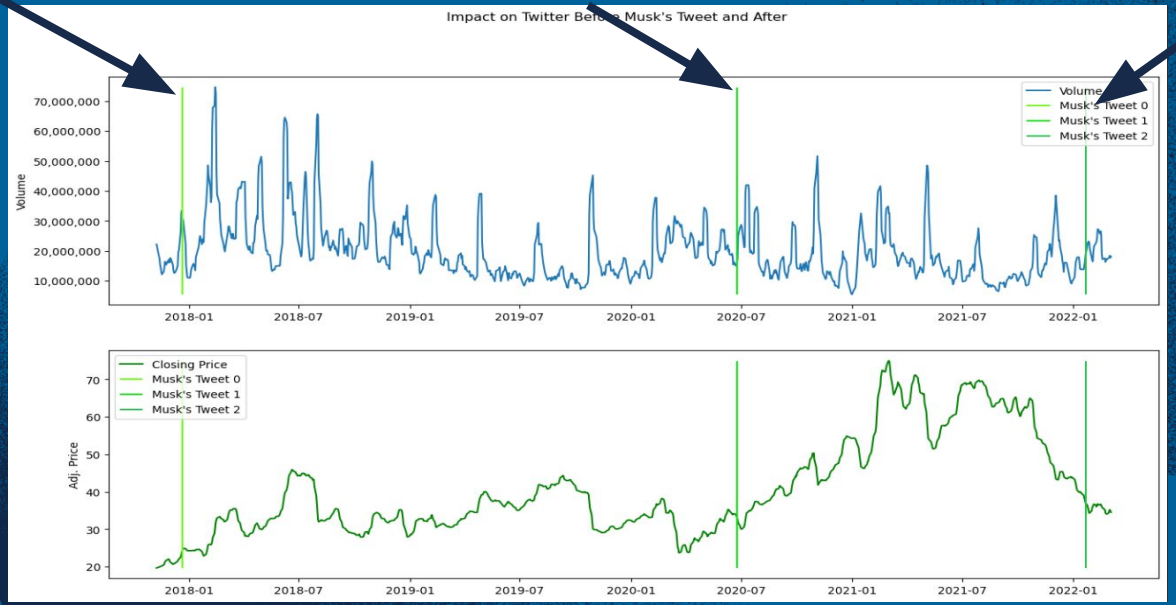
Elon Musk @elonmusk

Sentiment score: -0.13

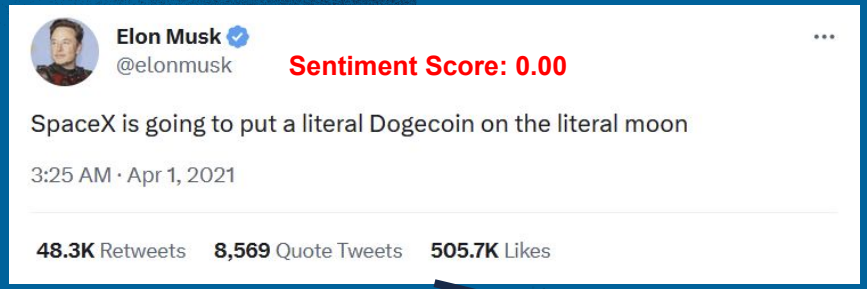
Twitter is spending engineering resources on this bs while crypto scammers are throwing a spambot block party in every thread!?

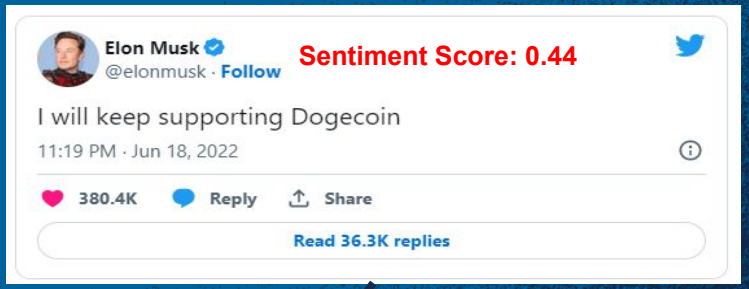
1:23 AM · Jan 21, 2022

9,304 Retweets **1,475** Quote Tweets **143K** Likes

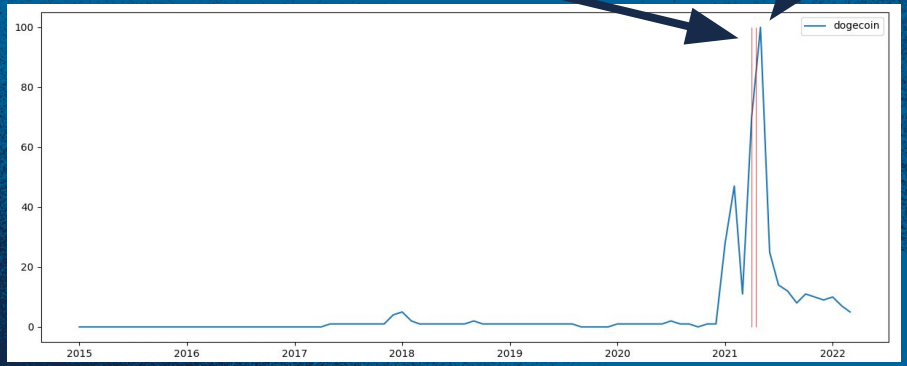


DogeCoin

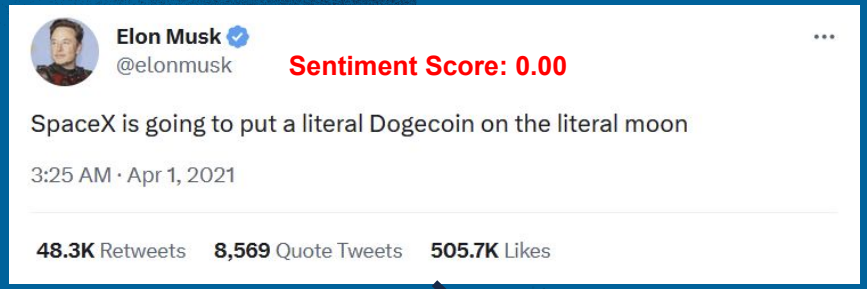


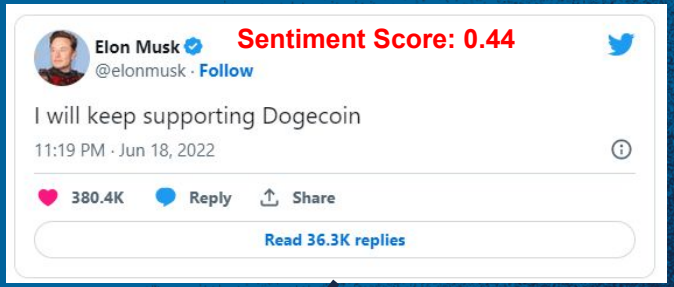


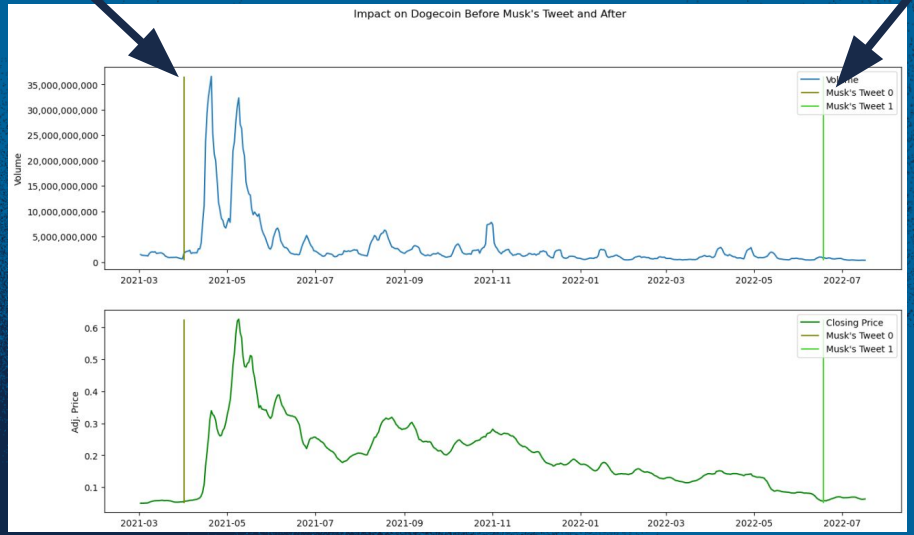
Google Trends



DogeCoin


Elon Musk
@elonmusk
Sentiment Score: 0.00
SpaceX is going to put a literal Dogecoin on the literal moon
3:25 AM · Apr 1, 2021
48.3K Retweets
8,569 Quote Tweets
505.7K Likes


Elon Musk
@elonmusk · Follow
Sentiment Score: 0.44
I will keep supporting Dogecoin
11:19 PM · Jun 18, 2022
380.4K
Reply
Share
Read 36.3K replies


Impact on Dogecoin Before Musk's Tweet and After
Volume
Musk's Tweet 0
Musk's Tweet 1
35,000,000,000
30,000,000,000
25,000,000,000
20,000,000,000
15,000,000,000
10,000,000,000
5,000,000,000
0
2021-03
2021-05
2021-07
2021-09
2021-11
2022-01
2022-03
2022-05
2022-07
Closing Price
Musk's Tweet 0
Musk's Tweet 1
Adj. Price
0.6
0.5
0.4
0.3
0.2
0.1

Bitcoin

Elon Musk ✓
@elonmusk

Sentiment score: -0.52

Bitcoin is almost as bs as fiat money

1:24 AM · Dec 20, 2020

9,005 Retweets **3,620** Quote Tweets **128K** Likes

Elon Musk ✓
@elonmusk

Sentiment score: -0.44

Bitcoin is my safe word

12:21 AM · Dec 20, 2020

17.9K Retweets **3,320** Quote Tweets **220K** Likes

Elon Musk ✓
@elonmusk

Sentiment score: 0.0

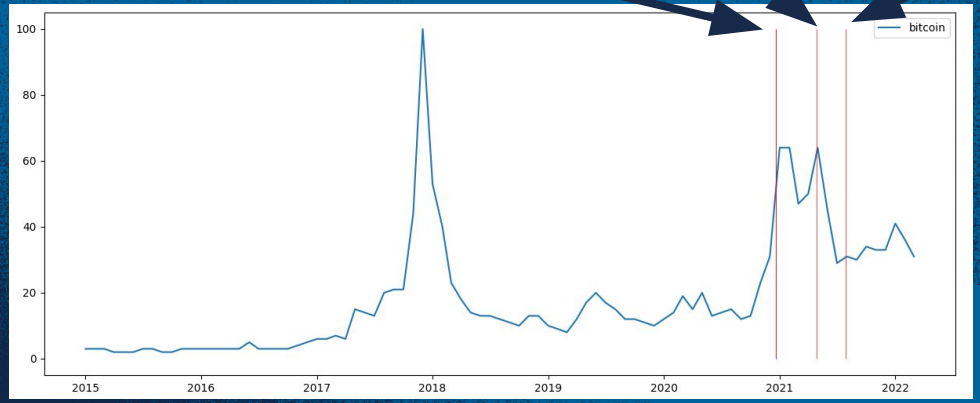
Replying to @stoolpresidente

No, you do not. I have not sold any of my Bitcoin. Tesla sold 10% of its holdings essentially to prove liquidity of Bitcoin as an alternative to holding cash on balance sheet.

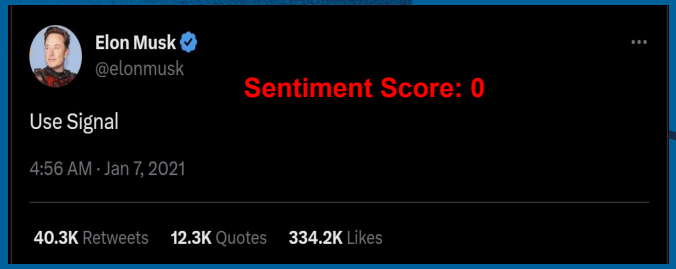
4:15 PM · Apr 26, 2021

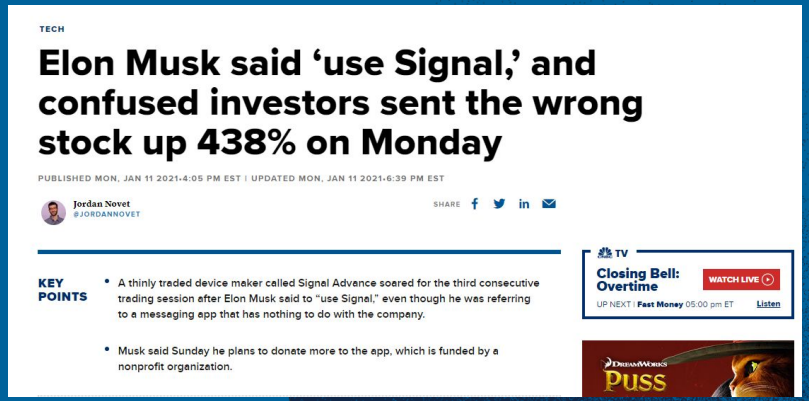
11.6K Retweets **3,118** Quote Tweets **91.7K** Likes

Google Trends

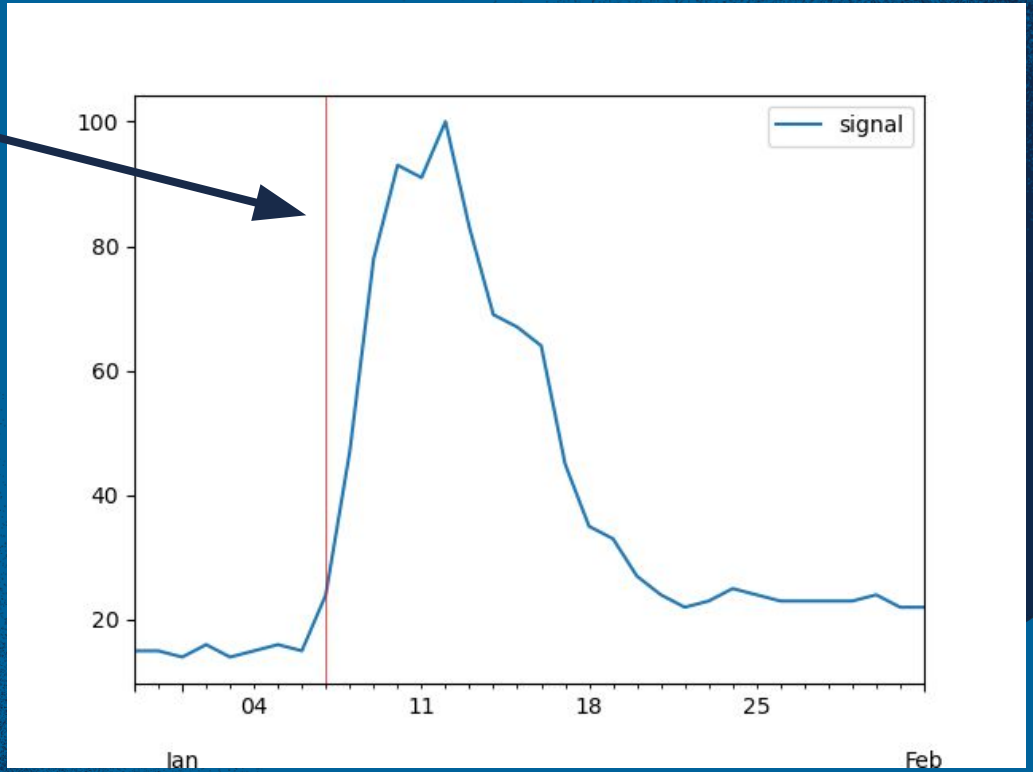


Signal

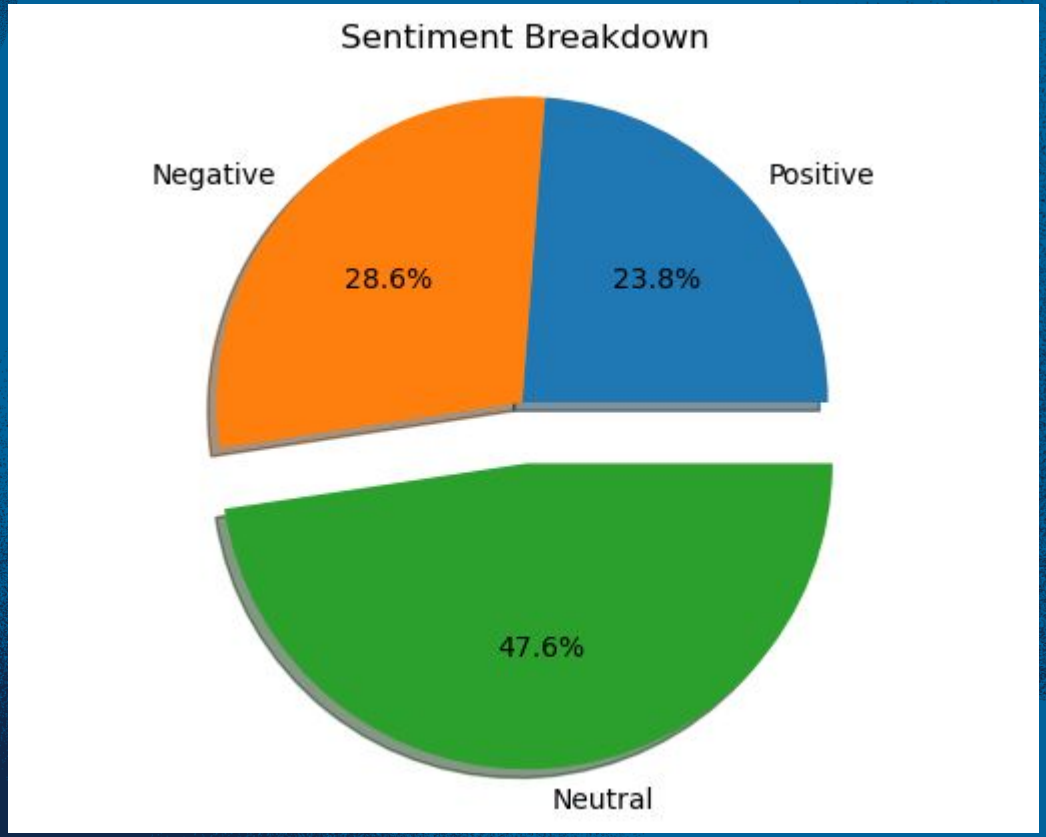




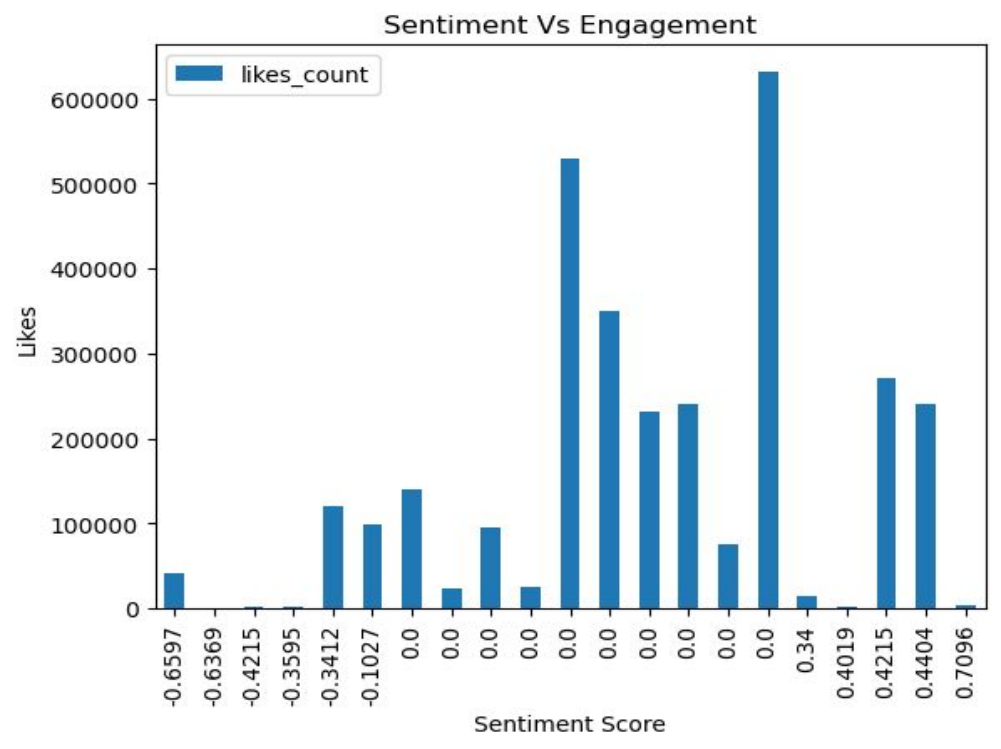
Google Trends



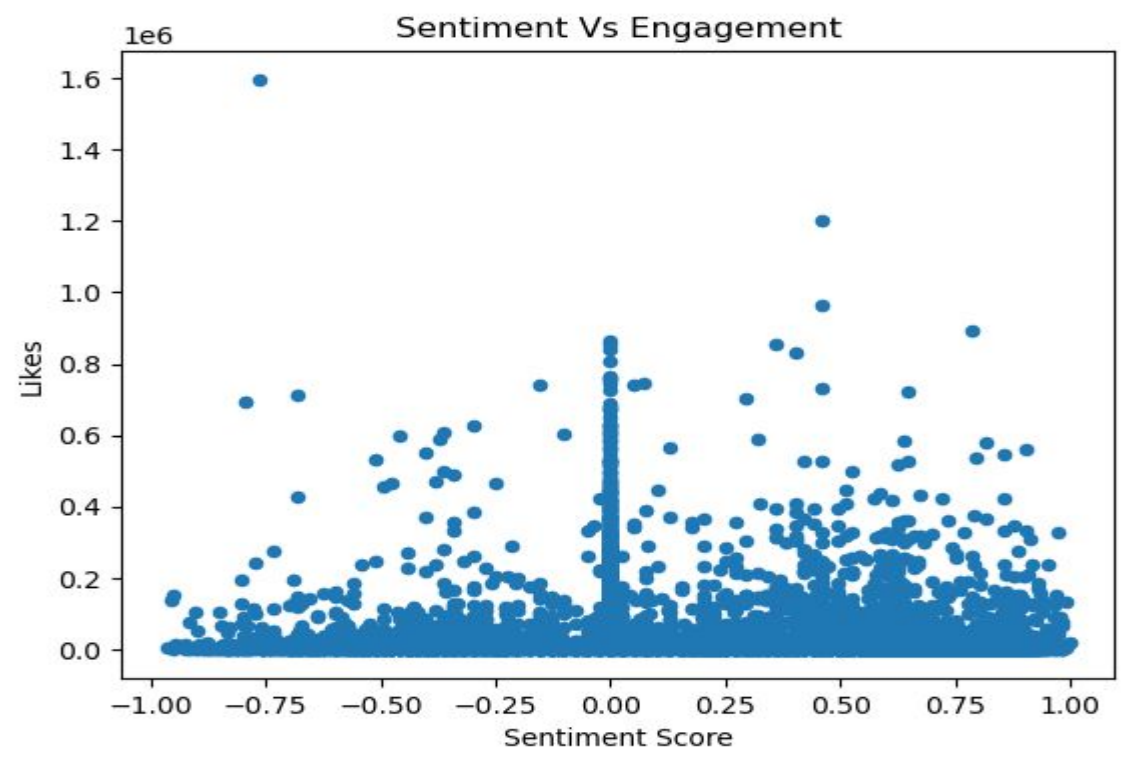
Overall Tweet Sentiment Breakdown



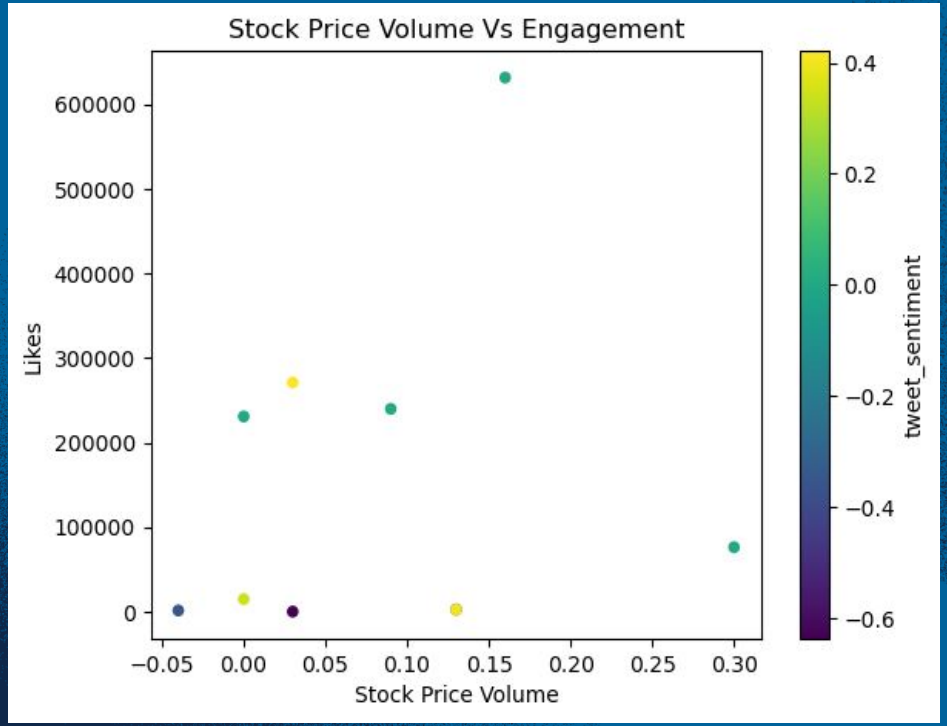
Sentiment Vs Tweet Engagement



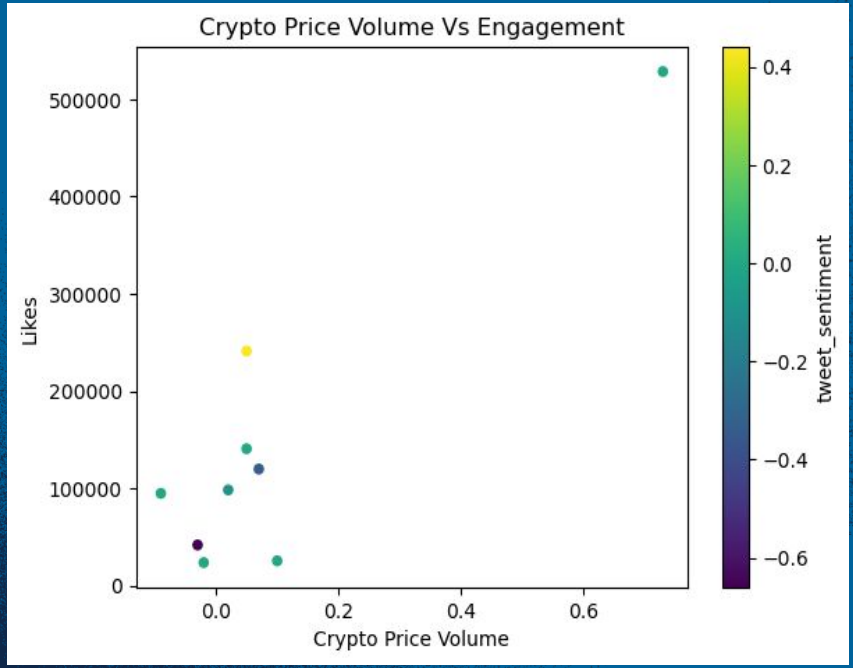
Sentiment Vs Tweet Engagement



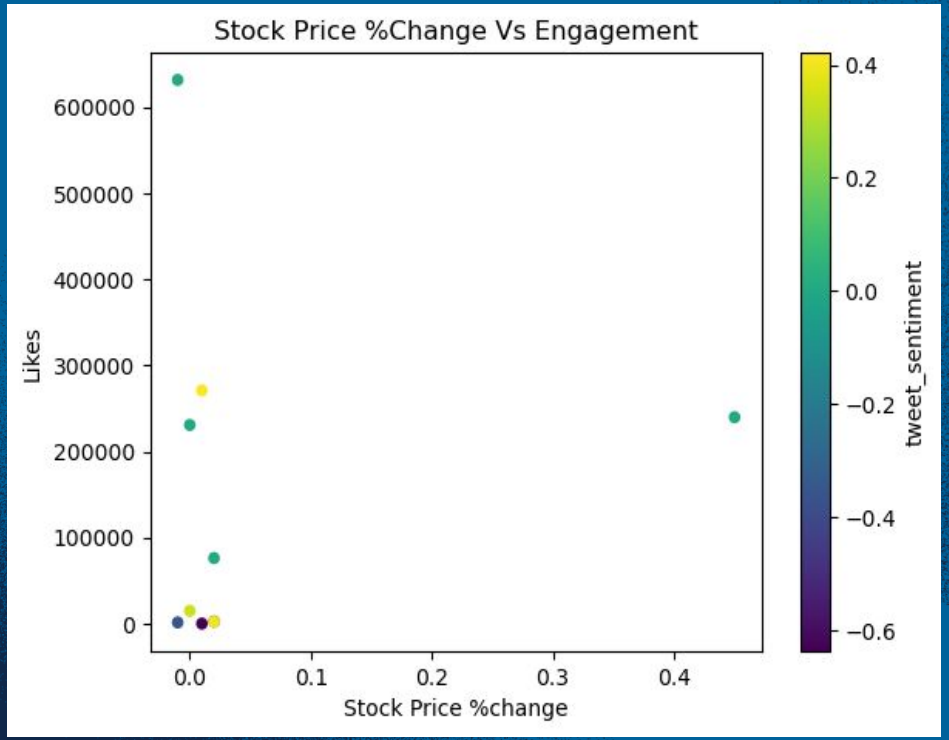
Stock Volume Vs Tweet Engagement



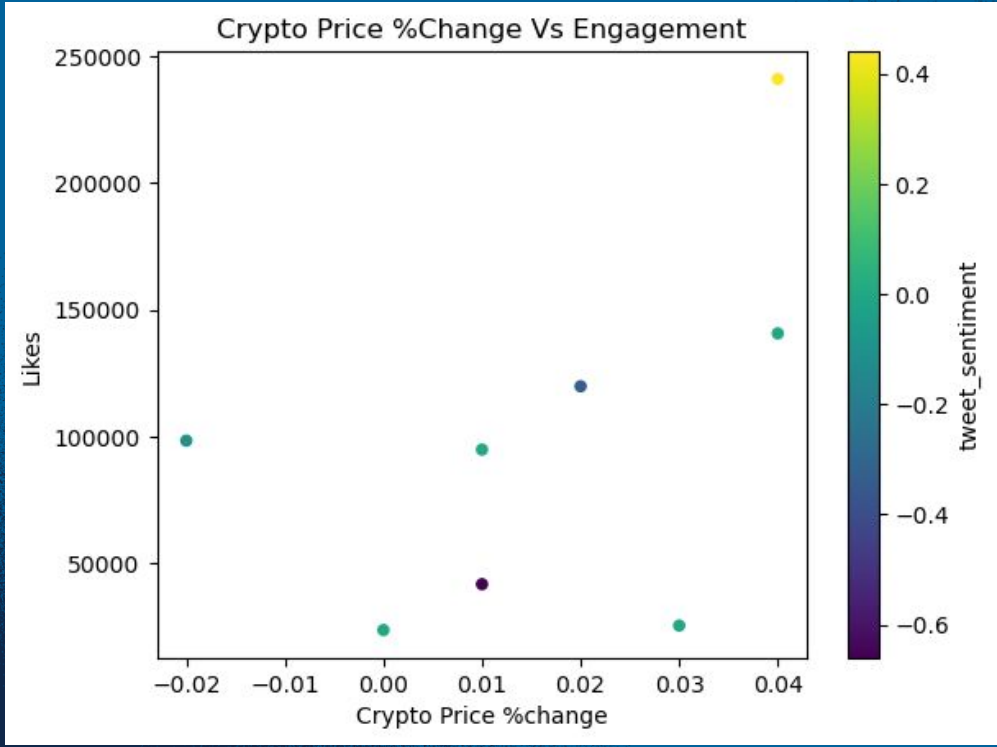
Crypto Volume Vs Tweet Engagement



Stock Price change Vs Tweet Engagement



Crypto Price change Vs Tweet Engagement



Conclusions

1. Musk's tweets cause spikes on Google Trends
2. Musk's tweets have no if not little impact on the stock market
3. Musk's tweets have some influence on the cryptocurrency market
4. The sentiment model is based on the adjectives in the tweets and many of the time
5. The sentiment model fails to detect tweets with no adjective due to the lack of context