
Group Project 1: Sentiment Scraper

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Overview

Delivery

June 8, 2021

Motivation

- Extrapolate data to make an informed decision
- Trade with, not against momentum

Summary

This proof of concept is intended to track sentiment for selected listed securities based on real time macro data from Twitter, StockTwits, and Quiverquant

Motivation & Hypothesis

Rise of the Retail Investor

- As of Aug 2020, retail investors were responsible for roughly 25% of executed trades.
- Unlike institutional traders, most prominent retail investors self publish trades

Hypothesis

- Sentiment derived from social media metadata can be a useful tool when evaluating securities.

Questions & Data

Can Retail Sentiments Be a Reliable Trading Metric?

- Open sourced data platforms
- Willingness for the community to win
- Is the type of security more or less sensitive to the retail space

Is Congressional Member's Trading Habits a Better Metric?

- On average, congressional members are contrarians
 - Sell when most retail is buying.
-

Data Cleanup & Exploration

Clean Up:

- Eliminating Noise
- Make Data Uniform
- Merger API Data

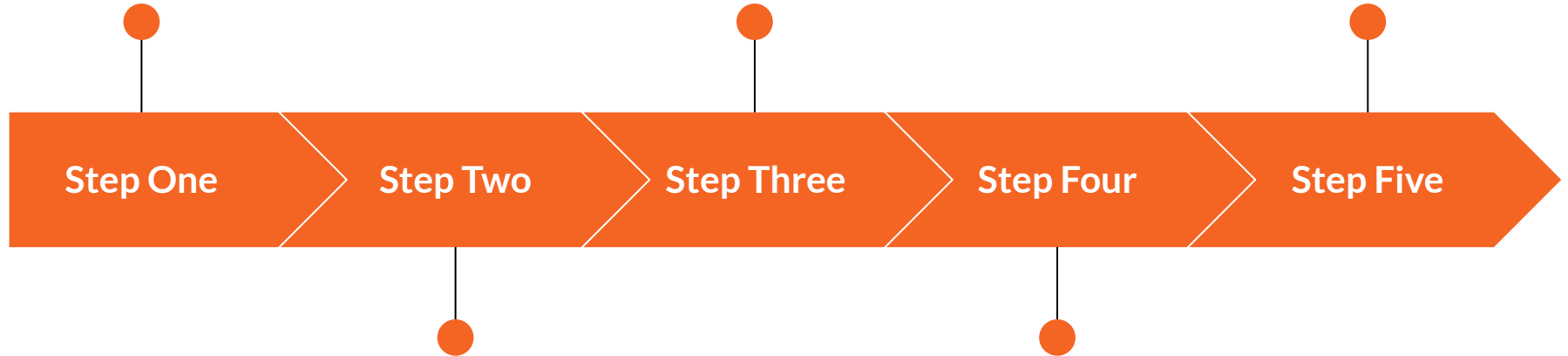
Exploring API Inputs

- Twitter API
 - Stocktwits API
 - Quiverquant API
 - Textblob API
-

Decide on APIs and
begin accessing and
cleaning Data

Clean, parse, and index
dataframe to produce
relevant results

Loop and update
results to analyze
sentiments in real time



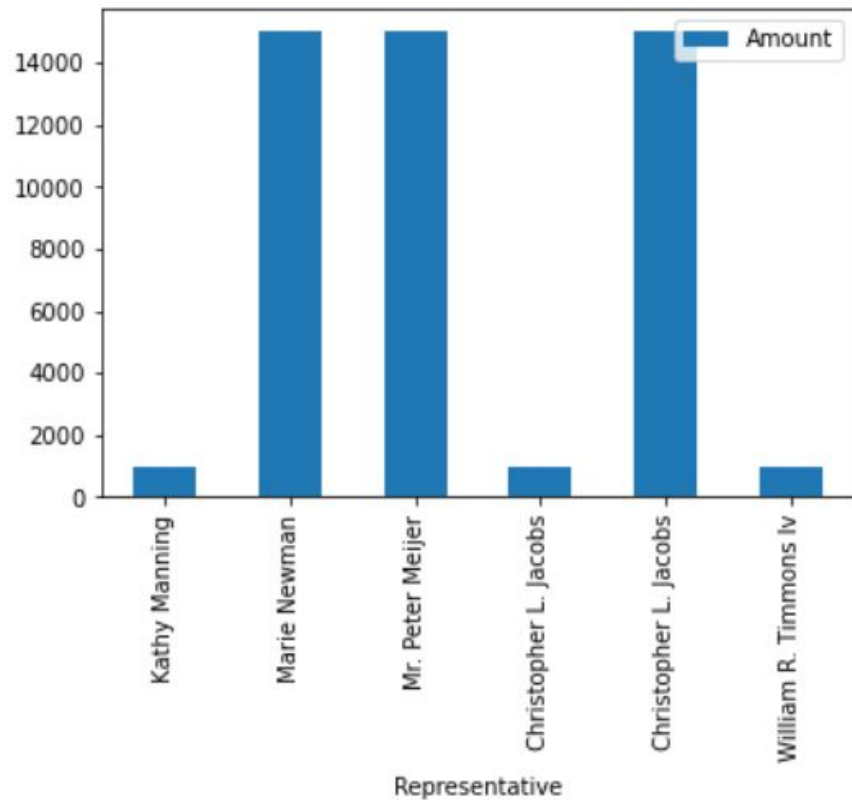
Compile data into
respective dataframes

Stress test results to
confirm information
was processed
accurately

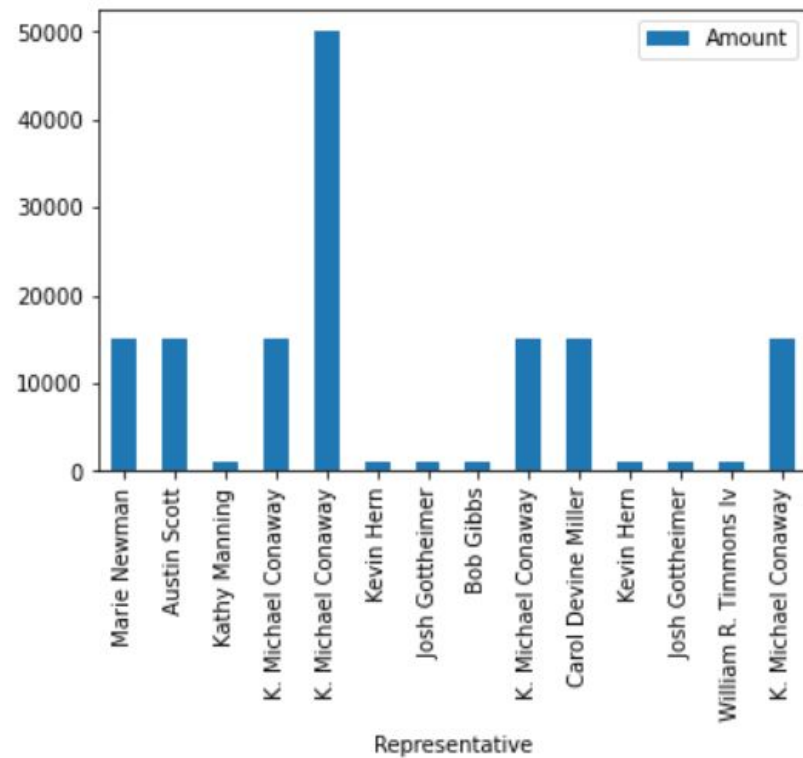
U.S. Representative Trading Performance



U.S. House Rep Trading Pattern - Mo Brooks (R)

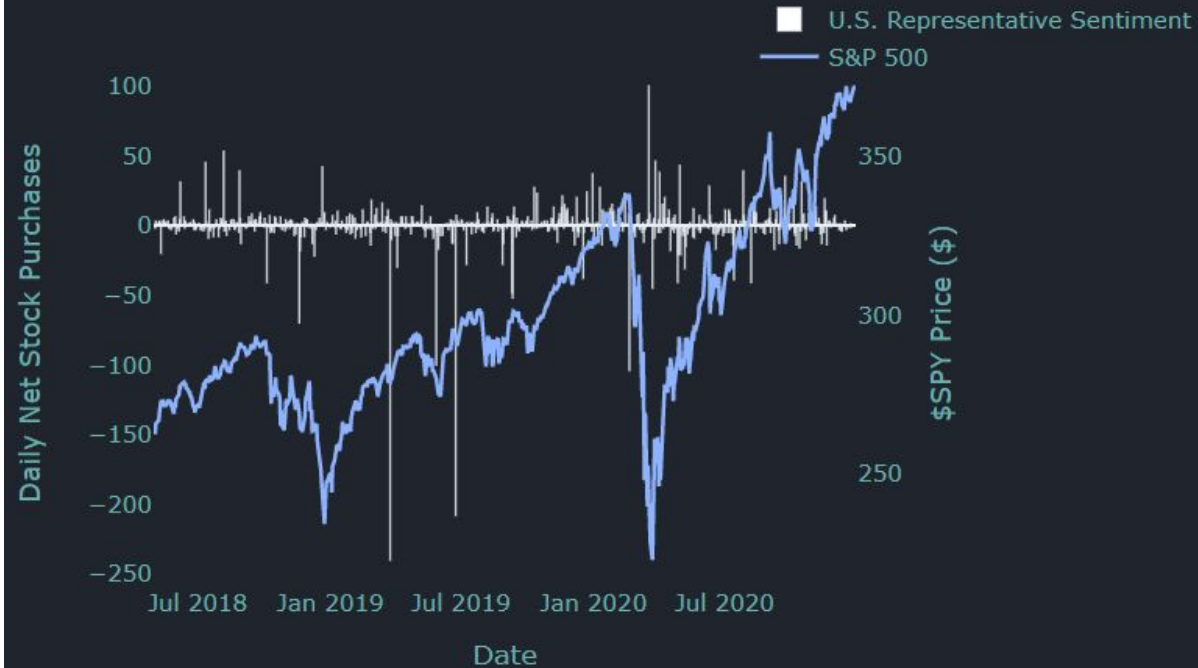


Sold

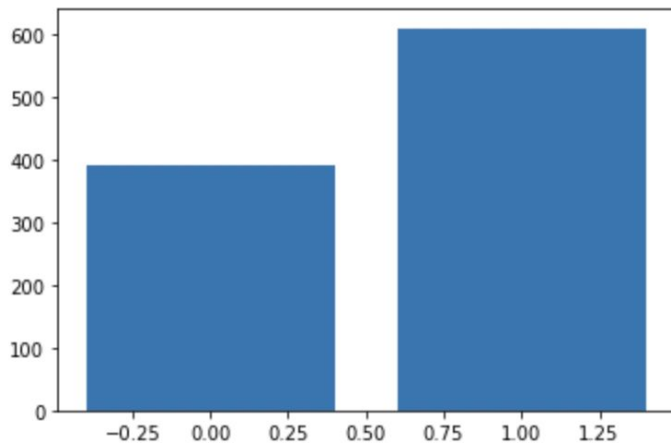


Purchase

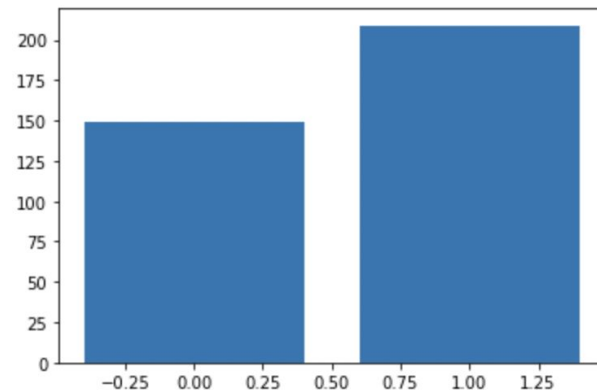
U.S. Representative Trading Sentiment vs. S&P 500



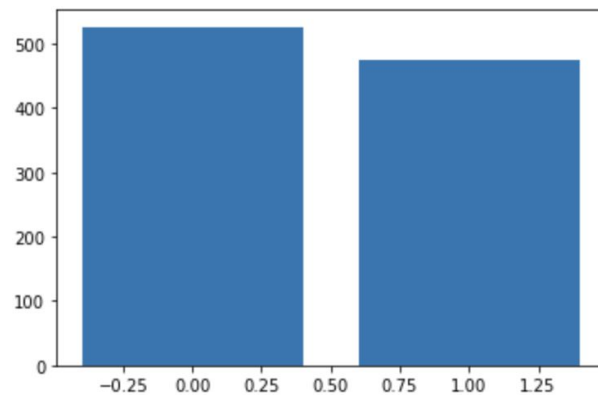
U.S. House of Representatives Trading Sentiment (Buy vs Sell) vs. S&P 500



TSLA Negative vs. Positive
Tweets (Twitter data)



JNJ Negative vs. Positive
Tweets (Twitter data)



SPY Negative vs. Positive Tweets (Twitter data)

In [117]: spy_result

Out[117]:

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1	1	340656003	\$SPY this isn't the turn this is covering th...<td>{'id': 1350310, 'username': 'CybertronTrader',...<td>{'id': 7271, 'symbol': 'SPY', 'title': 'SPDR ...<td>{'sentiment': {'basic': 'Bearish'}}<td>663</td> </tr> <tr> <th>2</th> <td>2</td> <td>340655848</td> <td>\$SPY futes rippin	{'id': 5278397, 'username': 'BearWithSprinkleO...	[{'id': 7271, 'symbol': 'SPY', 'title': 'SPDR ...	{'sentiment': {'basic': 'Bullish'}}	1921
3	3	340655809	SPYQQQ Until London opens this Asian circle...	{'id': 5487748, 'username': 'Harmonica', 'name...	[{'id': 7271, 'symbol': 'SPY', 'title': 'SPDR ...	{'sentiment': None}	0
4	4	340655737	\$SPY moo needs a face reveal I gotta put a fac...<td>{'id': 4187841, 'username': 'Fjabreu', 'name':...<td>{'id': 7271, 'symbol': 'SPY', 'title': 'SPDR ...<td>{'sentiment': None}</td> <td>69</td> </tr> <tr> <th>5</th> <td>5</td> <td>340655584</td> <td>\$ASO BGFV DJIA NASDAQSPY 🚀🔥 consumer dis...	{'id': 1816414, 'username': 'sickwidit8', 'nam...	[{'id': 677, 'symbol': 'DJIA', 'title': 'Dow J...	{'sentiment': {'basic': 'Bullish'}}	1152
6	6	340655406	\$SPY futures faking the 3 and going to pass it...<td>{'id': 2062888, 'username': 'LuxuryPuddle', 'n...<td>{'id': 7271, 'symbol': 'SPY', 'title': 'SPDR ...<td>{'giphy': {'id': '26BRrJHjNpAynLh28', 'ratio':...<td>23128</td> </tr> <tr> <th>7</th> <td>7</td> <td>340655031</td> <td>\$SPY I was dead wrong on market pullback on Fr...	{'id': 766446, 'username': 'SmallCapValueTradi...	[{'id': 7271, 'symbol': 'SPY', 'title': 'SPDR ...	{'sentiment': {'basic': 'Bullish'}}	8192

30 Most Recent Tweets and Attached Sentiments (SPY)

16	16	340691730	\$TSLA one of the most mentioned on twitch over...</td> <td>{'id': 3057652, 'username': 'TopStonks', 'name...</td> <td>{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...</td> <td>{'chart': {'thumb': 'https://charts.stocktwits...</td> <td>NaN</td> <td>747</td> </tr> <tr> <th>17</th> <td>17</td> <td>340691692</td> <td>\$TSLA The mountains in the background look fa...	{'id': 1654596, 'username': 'Ironmantis', 'nam...	[{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...	{'sentiment': {'basic': 'Bearish'}}	NaN	5640
18	18	340691171	<i>TSLA</i> Musk gonna take a billion loss on his ...	{'id': 3771726, 'username': 'Eyes_Unclouded', ...	[{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...	{'sentiment': None}	NaN	853
19	19	340691071	\$TSLA Michael burry is making a bank</td> <td>{'id': 3314203, 'username': 'paytience1', 'nam...</td> <td>{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...</td> <td>{'sentiment': {'basic': 'Bearish'}}	{'id': 5249037, 'username': 'AarynDrake', 'nam...	[{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...	{'sentiment': {'basic': 'Bullish'}}	{'reshared_count': 1, 'user_ids': [17726]}	963
21	21	340690602	\$TSLA why is everyone leaving👉</td> <td>{'id': 2039402, 'username': 'scalpin_everyday'...</td> <td>{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...</td> <td>{'chart': {'thumb': 'https://charts.stocktwits...</td> <td>NaN</td> <td>11766</td> </tr> <tr> <th>22</th> <td>22</td> <td>340690167</td> <td>\$TSLA — Time for calls?	{'id': 2256135, 'username': 'L_ongRon', 'name'...	[{'id': 8660, 'symbol': 'TSLA', 'title': 'Tesl...	{'sentiment': {'basic': 'Bullish'}}	NaN	2366
			\$TSLA tempted to short but will just watch</td> <td>{'id': 1724020, 'username': 'roberrrrto', 'na...</td> <td>{'id': 8660, 'symbol': 'TSLA', 'title': '...	{'id': 2039402	[{'id': 8660,			

30 Most Recent Tweets and Attached Sentiments (TSLA)

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1 [237]: jnj_result
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it[237]:
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	index	id	body	user	symbols	entities	Likes
0	0	340693328	<i>IBM</i> INTC <i>JNJ</i> KO \$JPM \n\nMARKETS ALERTS! S...</td> <td>{'id': 5473544, 'username': 'TradingFirmTrader...</td> <td>{'id': 2310, 'symbol': 'INTC', 'title': 'Inte...</td> <td>{'sentiment': {'basic': 'Bullish'}}</td> <td>2959</td> </tr> <tr> <th>1</th> <td>1</td> <td>340690479</td> <td>\$HNST I spend 130 bucks on a fuckin bot of the...	{'id': 4407727, 'username': 'WizKid77', 'name'...	[{'id': 6011, 'symbol': 'JNJ', 'title': 'Johns...	{'sentiment': {'basic': 'Bullish'}}	187
2	2	340681220	<i>JNJ</i> NVS <i>ABBV</i> MRK \$LLY \n \nhttps://youtu....	{'id': 5469279, 'username': 'CarlKennerr', 'na...	[{'id': 6011, 'symbol': 'JNJ', 'title': 'Johns...	{'sentiment': None}	54
3	3	340674670	Ouch! Did You Get Your Jab?\n\n"VACCINES ...	{'id': 5149514, 'username': 'BioWreck', 'name'...	[{'id': 2723, 'symbol': 'MRNA', 'title': 'Mode...	{'sentiment': None}	0
4	4	340614426	\$ATNF 🍷 The founders have significant expert...	{'id': 5021565, 'username': 'MDInvestments', '...	[{'id': 838, 'symbol': 'AMGN', 'title': 'Amgen...	{'sentiment': {'basic': 'Bullish'}}	5146
5	5	340611796	<i>RMED</i> thisscamgettingboughtoutbyJNJ jus...	{'id': 3724883, 'username': 'ElPresidente98', ...	[{'id': 6011, 'symbol': 'JNJ', 'title': 'Johns...	{'sentiment': {'basic': 'Bearish'}}	481
6	6	340601090	<i>JNJ</i> NVS <i>ABBV</i> MRK \$LLY \n \nhttps://youtu....	{'id': 5469279, 'username': 'CarlKennerr', 'na...	[{'id': 6011, 'symbol': 'JNJ', 'title': 'Johns...	{'sentiment': None}	53

30 Most Recent Tweets and Attached Sentiments (JNJ)

Discussion & Overall Findings

- Hypothesis confirmation:
 - For the most part the initial hypothesis has been confirmed
 - Three data sources strengthen the findings
 - Data Strength enabling further development
 - Our data sources offer more features such as:
 - WallStreetBets Data
-

Postmortem

1. Difficulties & steps taken to overcome adversity
2. Additional questions
3. Further developments with more time
