

Covid-19 Pandemic Tweets Analysis

A glimpse into sentiments about the pandemic across time

Team 16: Steven Wong - Moira Feng - James Hutchinson

14 days

Total cases



Coronavirus (COVID-19)



400,000

How do people
feel about the
pandemic as it
worsens?

Roadmap

Methodology & Dataset

Tweets Word Clouds

Sentiment Analysis

Correlating COVID Cases & Sentiment

Conclusion

Our Approach: Tweet Text Analysis



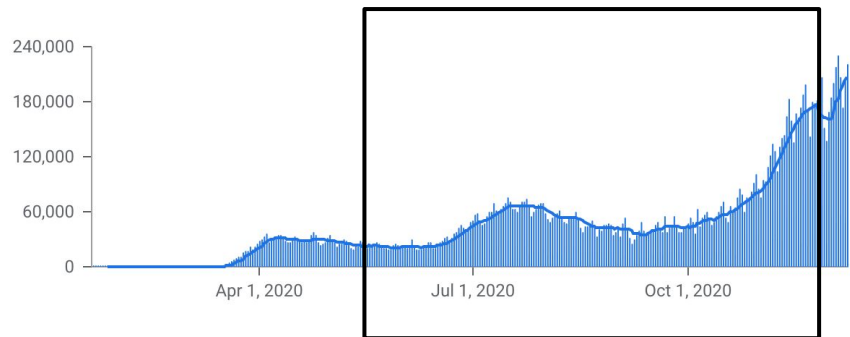
Governor Gretchen Whitmer ✓
@GovWhitmer

Wishing my friend
[@GovernorTomWolf](#) good health and
a speedy recovery. Nobody is
immune to this virus, and it's on each
of us to do our part to protect our
families and communities from

[#COVID19](#).

11:47 AM · 12/9/20 · Twitter for iPhone

📍 East Lansing, MI



May 1 - Nov 27

#COVID Tweets Dataset

Unnamed: 0		date	place	screen_name	tweet	tweet_id	user_location	state
0	2	2020-06-29 23:59:04	0.0	jeffschell75	Conservatives who think COVID-19 is a Democrat...	1.277753e+18	Long Beach, CA	CA
1	5	2020-06-29 23:59:39	0.0	Bekah_Boos	@GeorgeTakei just #TellingItLikeltls\n\n#WearA...	1.277754e+18	Dallas, TX	TX
2	10	2020-06-29 23:59:29	0.0	mea_mark	@taitai78787 @ScottGottliebMD It's too early t...	1.277754e+18	Rural Central Texas	TX
3	12	2020-06-29 23:59:31	0.0	MichelleONeill	Quad Cities #COVID19 positive test result tren...	1.277754e+18	Rock Island, IL USA	IL
4	13	2020-06-29 23:59:04	0.0	MarianDClough	JUST IN: Arizona Governor Orders Bars, Gyms, W...	1.277753e+18	Montana	MT
...

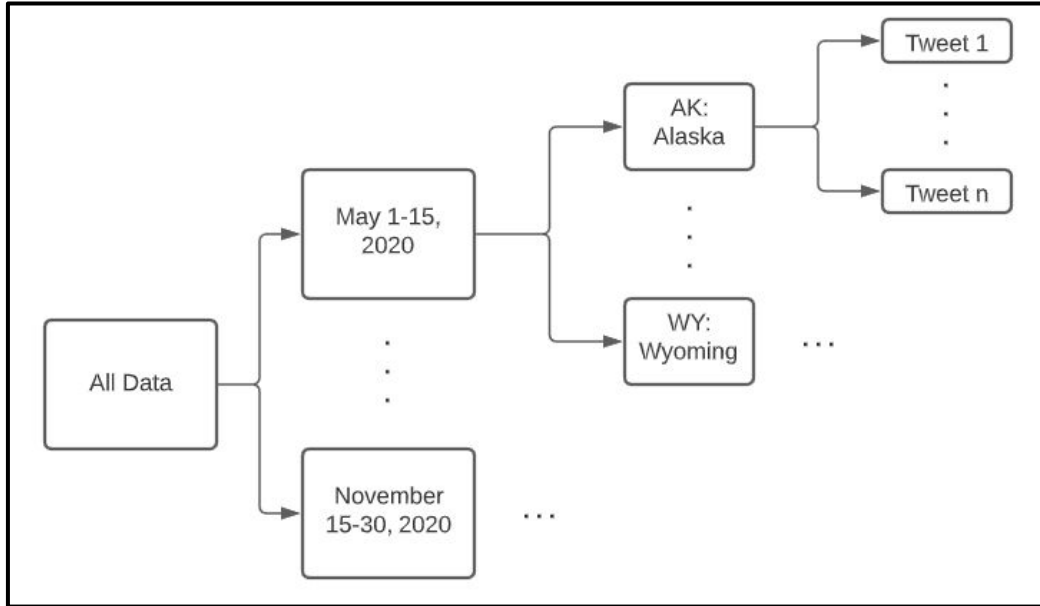
Dataset time horizon May 1, 2020 -
November 30, 2020
These are split into separate csv files
of interval 15 days

Tweets of every individual in the dataset

States of each tweet
(used for US map
visualization)

Each csv file has 260,000-300,000
tweets

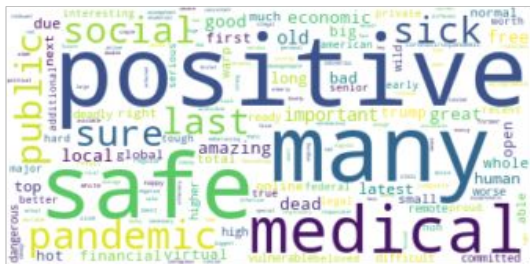
The Dataset - Flowchart



- With this format, we are able to distinguish between different categories of tweets. Specifically, by state and date.
- This allows us to create a US Map animation over time for the Tweet Sentiment Analysis

What do people
talk about when
they tweet about
COVID-19?

Most Mentioned Words by Month



May 2020

June 2020



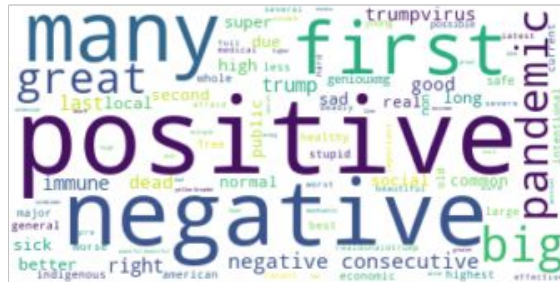
July 2020



Most Mentioned Words by Month



Sept 2020



Nov 2020

Aug 2020



October 2020



Sentiment Analysis

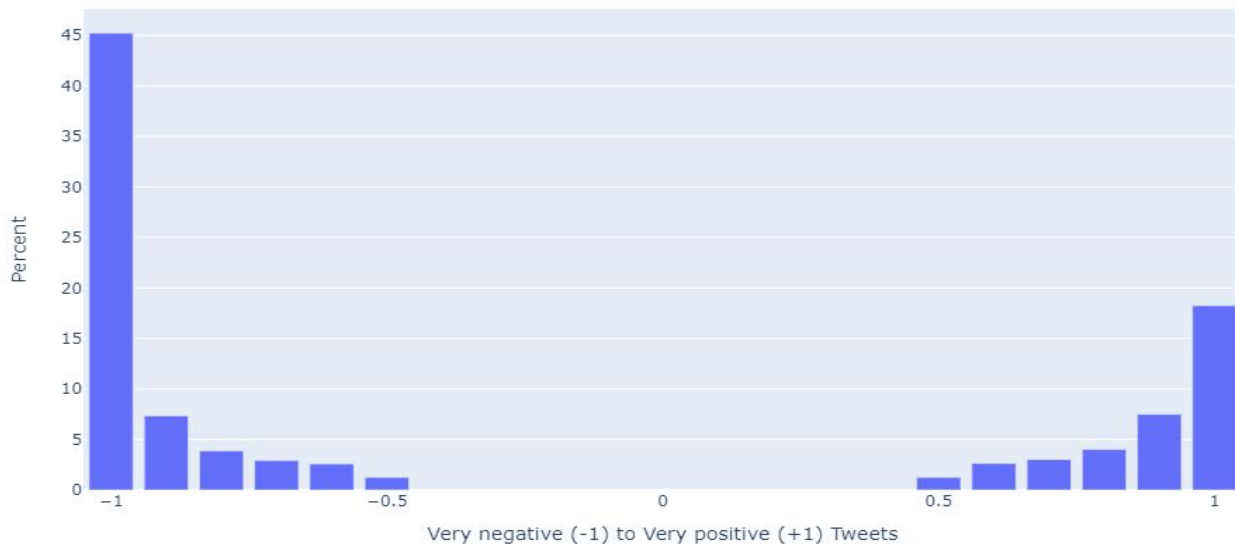
Flair - LSTM neural network

Polarity scores: [-1, -0.5], [0.5, 1]



Sentient Polarity Distribution

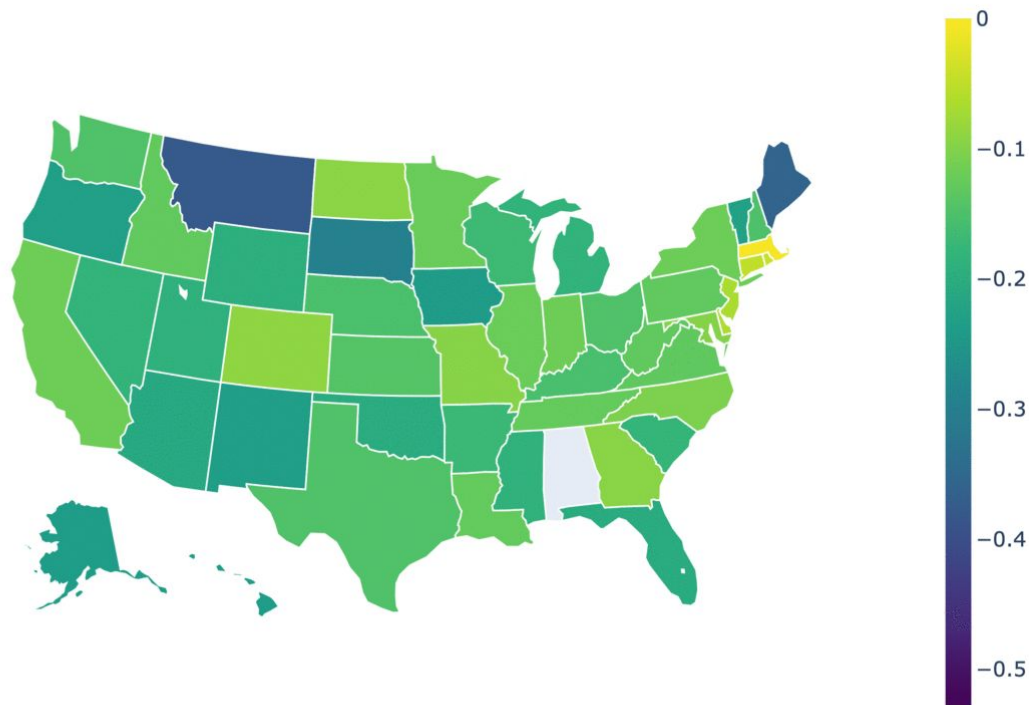
Do people tend to express negative feelings or positivity?



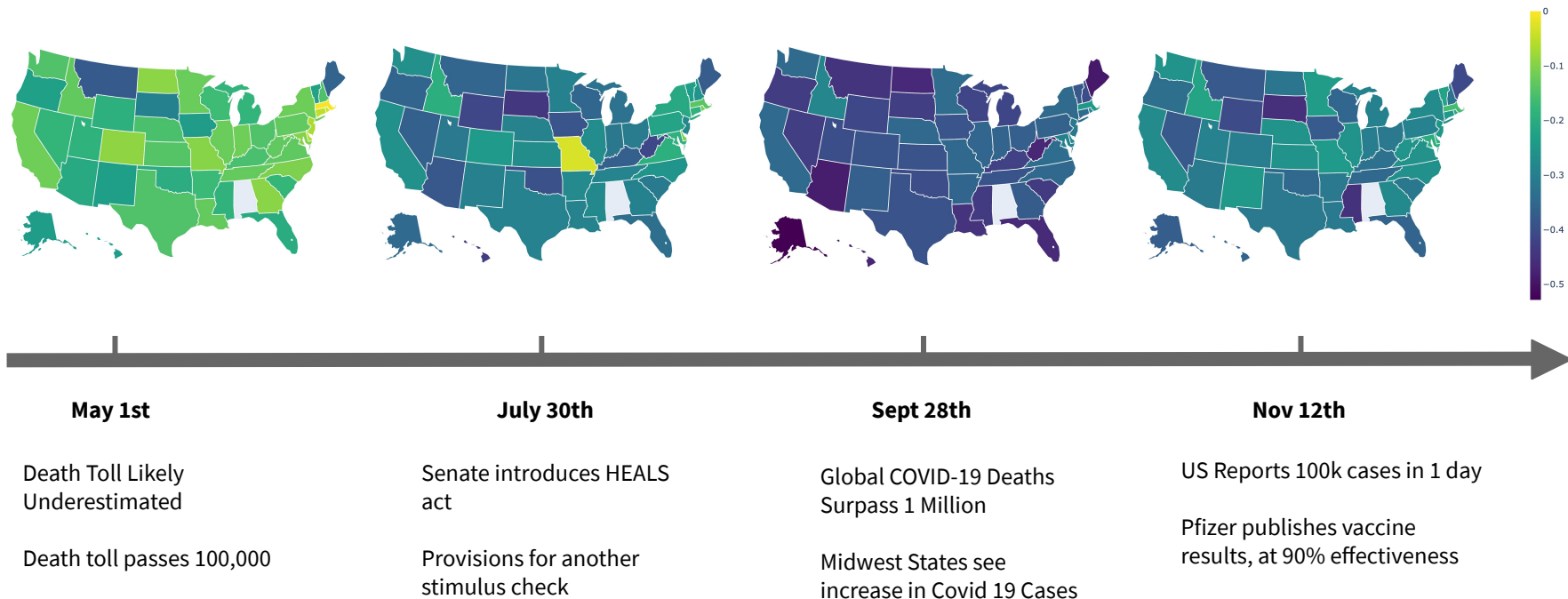
How do people in
different states
react differently?

Sentiment Analysis - Flair - US Map

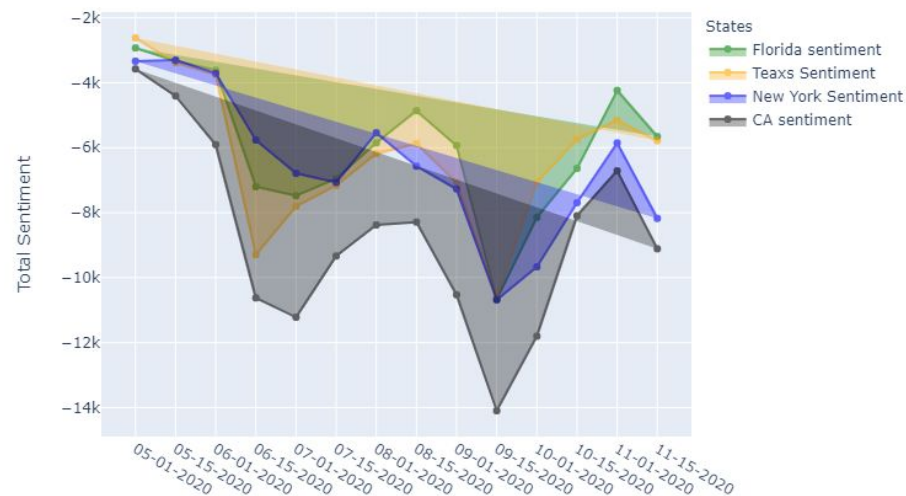
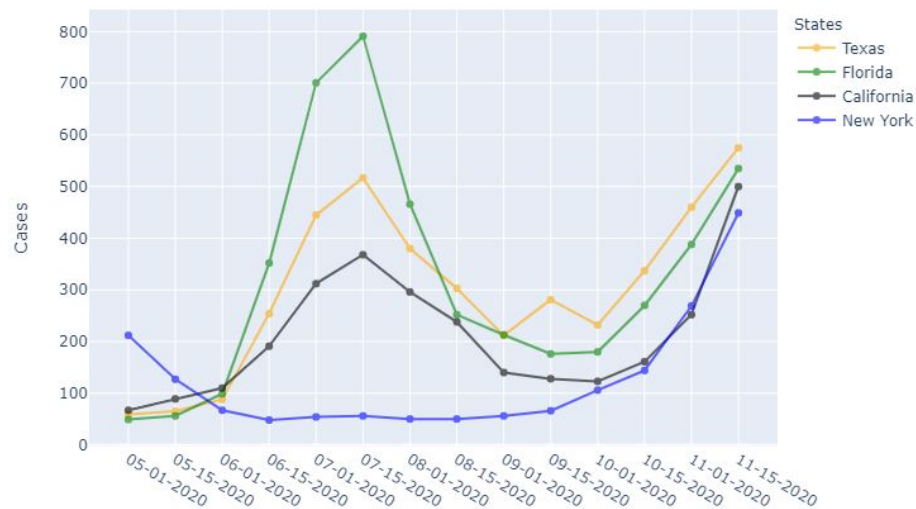
Mean Sentiment Scores: 2020-05-01



What happened on these dates?

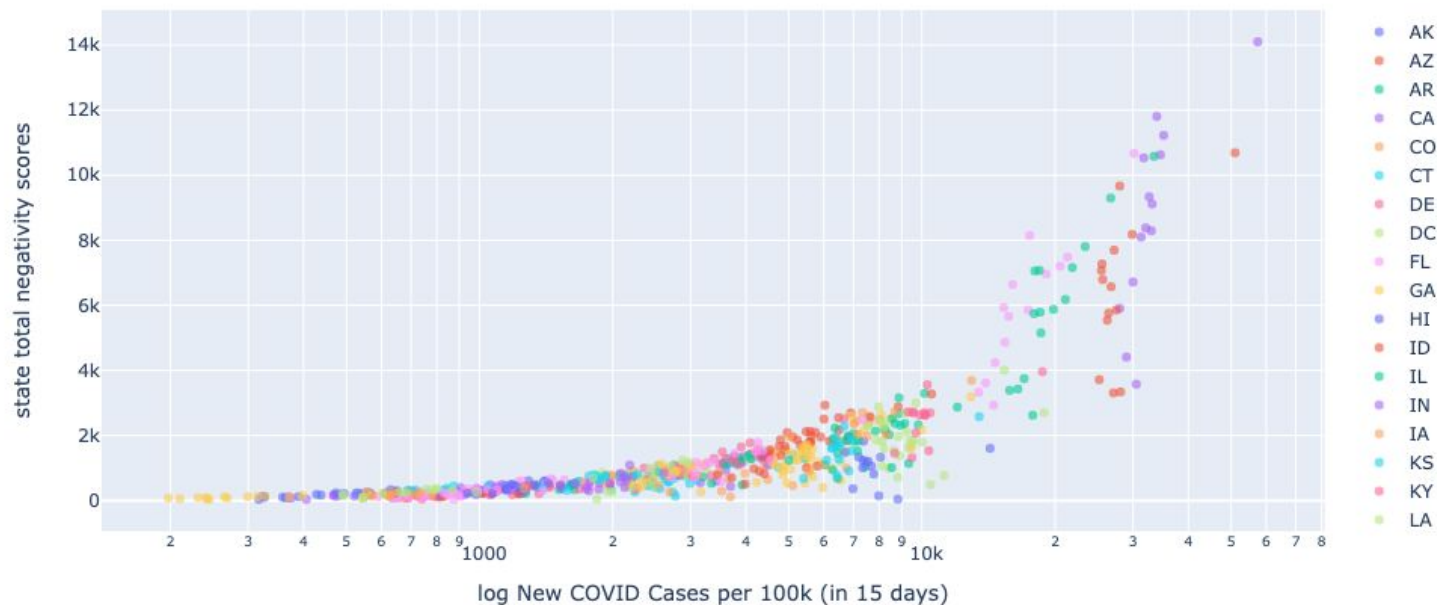


Zooming in... New case per 100k



Are sentiment & covid cases correlated?

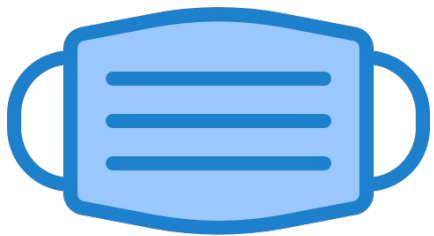
Negative total sentiment scores by state: correlation = 0.9397



Are sentiment & covid cases correlated?

Negative mean sentiment scores: correlation = 0.1457





Any questions & comments?

Thank you!