

How do Americans perceive their government's response to the Covid pandemic and how will it affect the 2020 election?



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# Covid & 2020 in Tweets

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# Executive Summary

- Twitter has been a useful tool for companies and organizations to monitor how they are perceived by their customers and the public at large in real-time
- With the American presidential election this year and ongoing Covid-19 pandemic, analysis of tweets provides policy-makers and political campaigns opportunity to make adjustments to reduce Covid transmissions or improve their candidate's electoral prospects
- The primary goal of this analysis will be to ascertain topics expressed in Covid tweets to determine whether American public is assigning any blame for the pandemic.

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# Methodology for Gathering Tweets

- Tweets were gathered from January 1, 2020 until August 21, 2020
- 4 subsets were created to promote a diversity of viewpoints. Further by having these separate 'buckets' of tweets, we will be able to examine and compare text features to assist with determining whether or not a tweet is deceptive or not
- Final dataset comprised of 27,437 tweets

## **TRUMP TWEETS**

**POTUS TWEETS THAT CAN BE  
CONSIDERED POLE1**

## **CUOMO TWEETS**

**NY GOV TWEETS CONSIDERED  
POLE2**

## **BASELINE TWEETS**

**TWEETS BY NEUTRAL  
PUBLICATIONS**

## **PUBLIC TWEETS**

**TWEETS FROM AMERICAN  
PUBLIC**

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# Topics Present in Tweets

**TOPIC 1: PUBLIC HEALTH RESPONSE TO  
PANDEMIC**

**TOPIC 2: DEATHS/HEALTH IMPACT OF  
COVID**

**TOPIC 3: FINANCIAL AND FOOD RELIEF  
NEEDED DUE TO COVID**

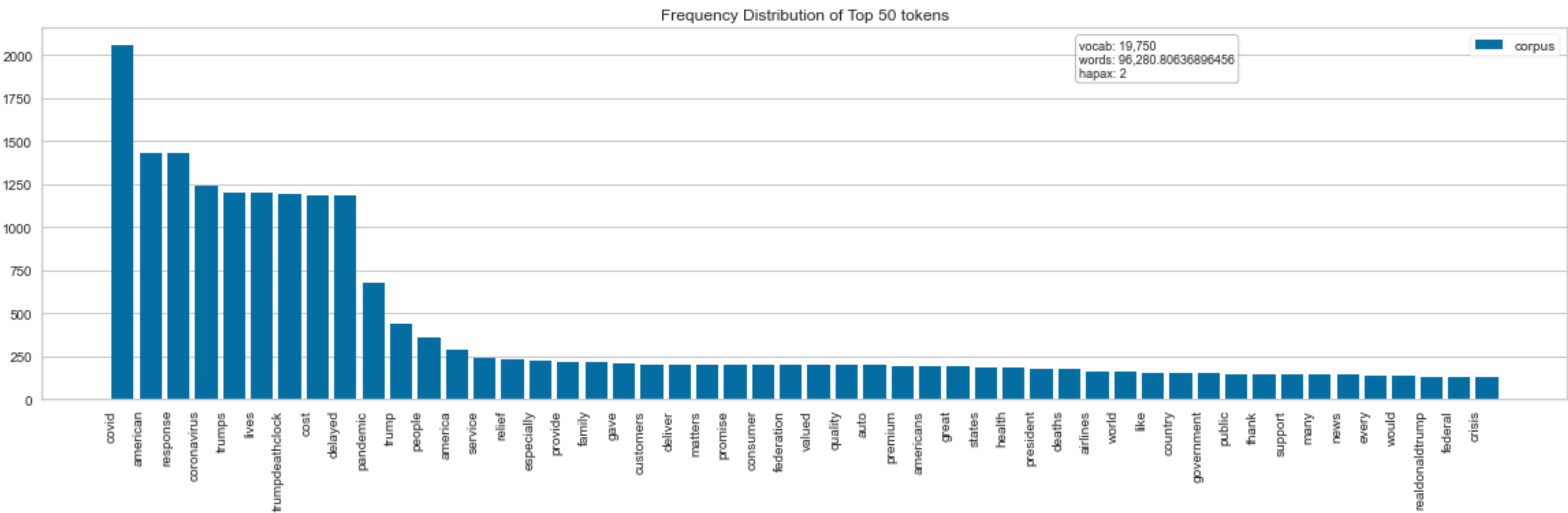
**TOPIC 4: TRUMP RESPONSE TO PANDEMIC  
AND COSTS OF DELAY**

**TOPIC 5: NATIONAL RESPONSE TO  
PANDEMIC**

# What are people talking about?

Top 10 Trigrams

Covid Response Cost
Response Cost American
Delayed Covid Response
Cost American Lives
American Lives Trumpdeathclock
Trumpdeathclock Covid Coronavirus
Lives Trumpdeathclock Covid
Trumps Delayed Covid
Covid Coronavirus Covid
Federation America Gave

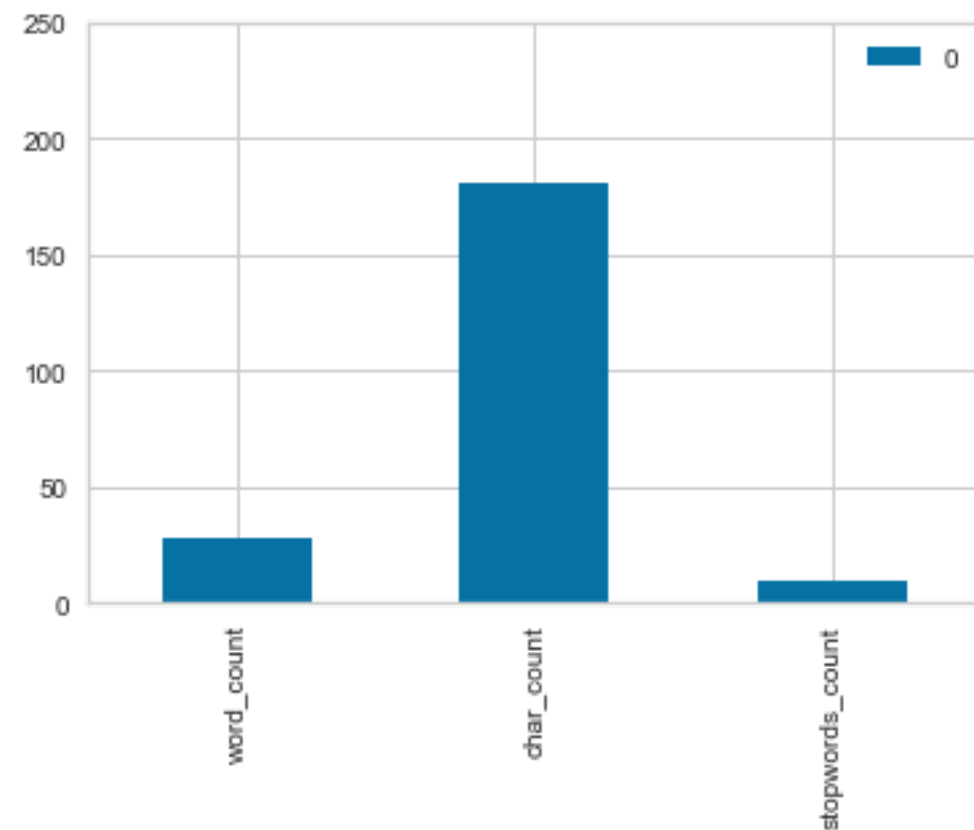




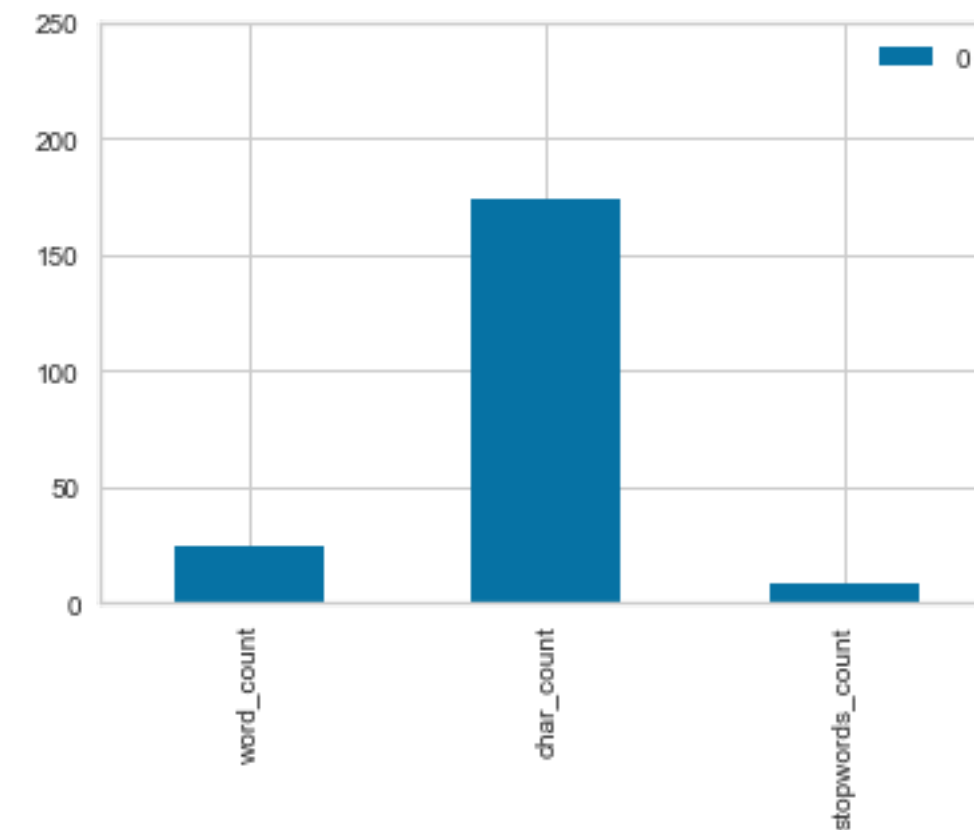
# Detecting Deception

- Deception can be identified through analyzing text features of a tweet. According to linguistic research, deceptive texts are often longer, contain more filler words, and have more verbs than nouns

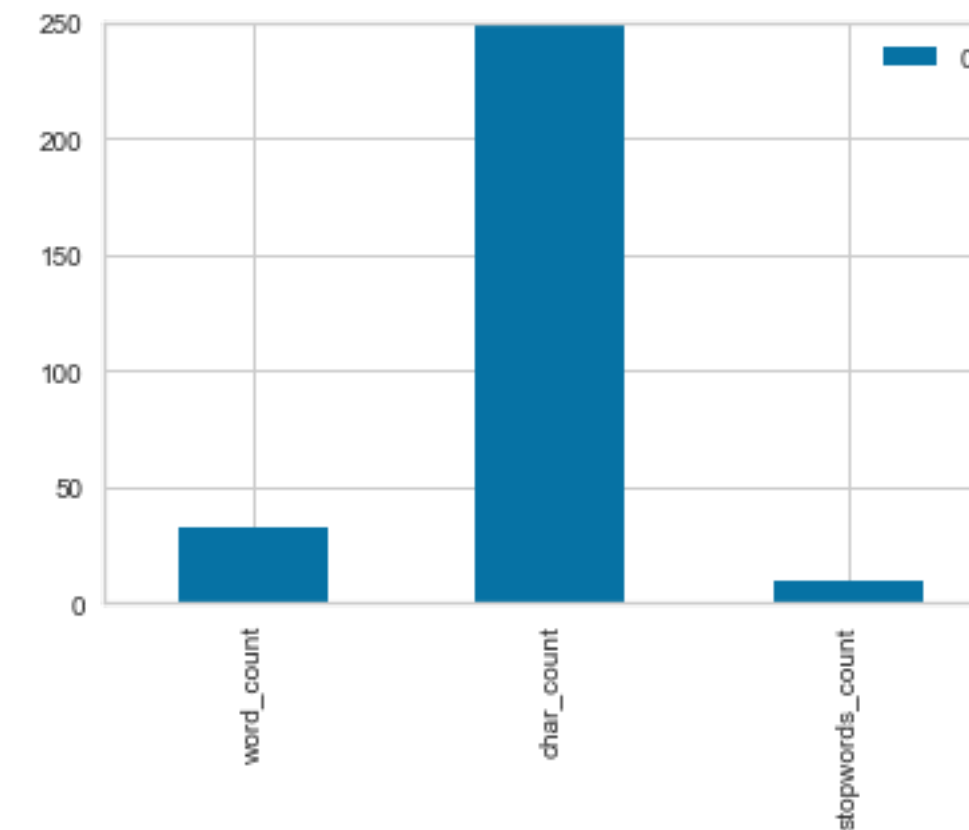
Trump Tweets



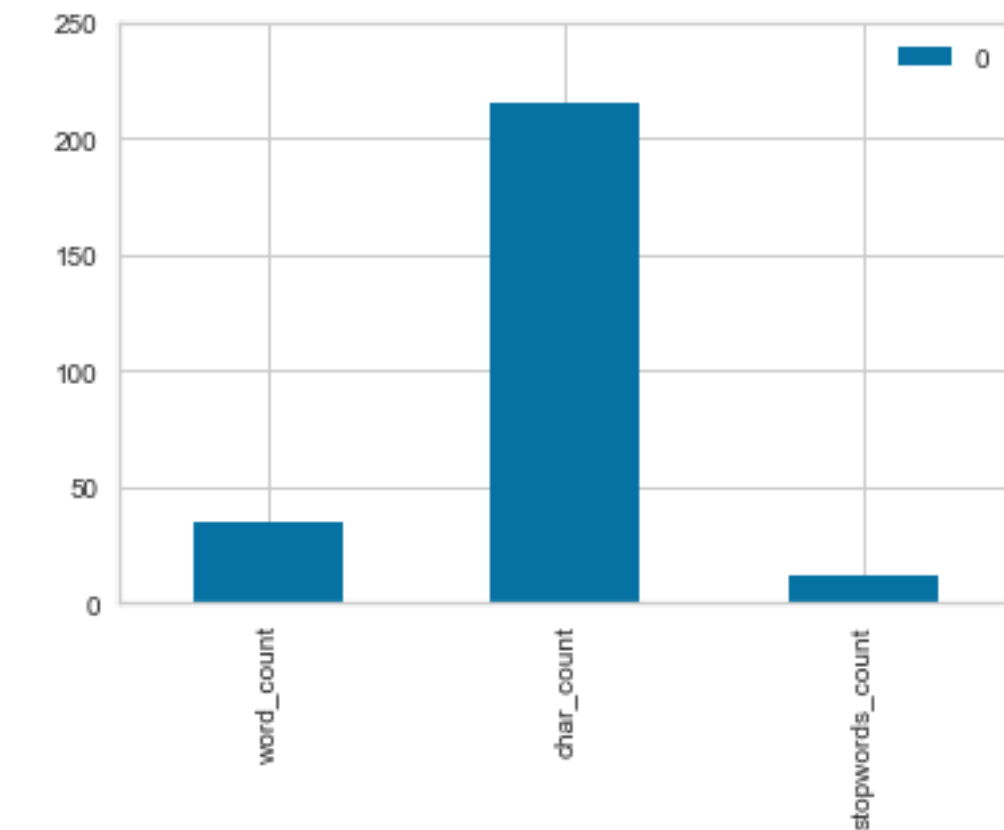
Baseline Tweets



Public Tweets

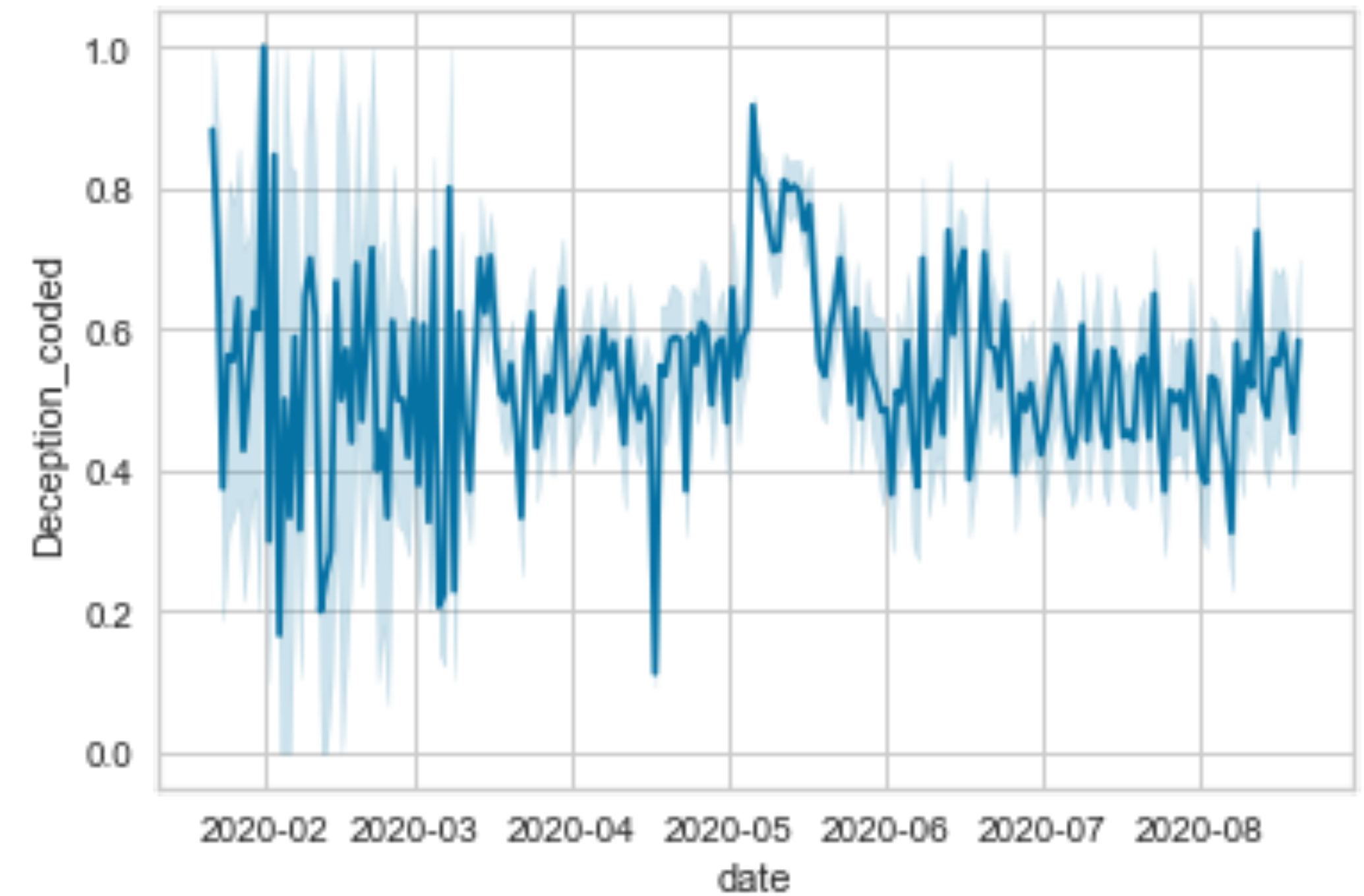
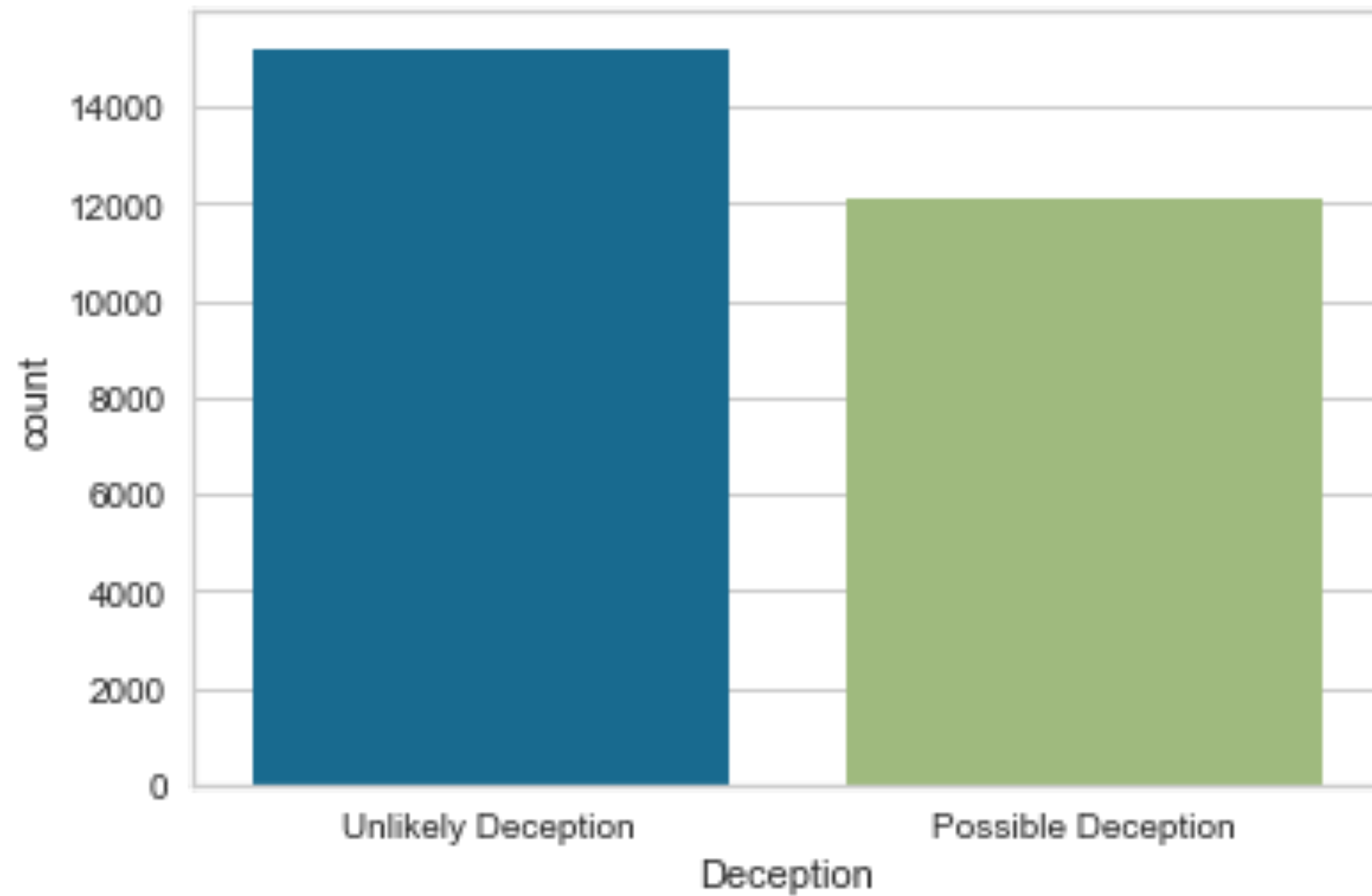


Cuomo Tweets



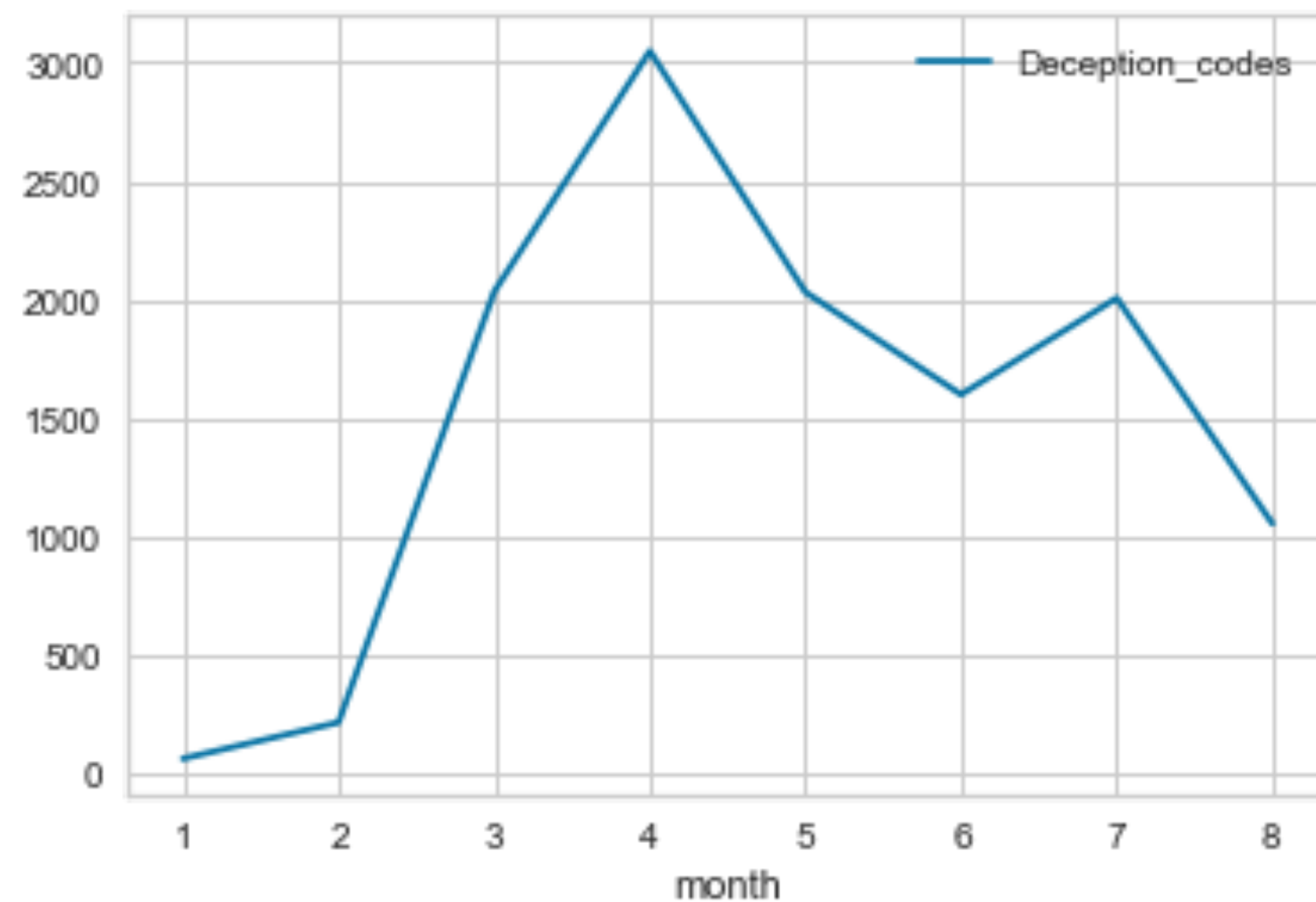
- For the purposes of this project, tweets will be highlighted as possibly deceptive if they have a stop word count greater than 10 and a word count greater than 40

# Dataset Deception Detail

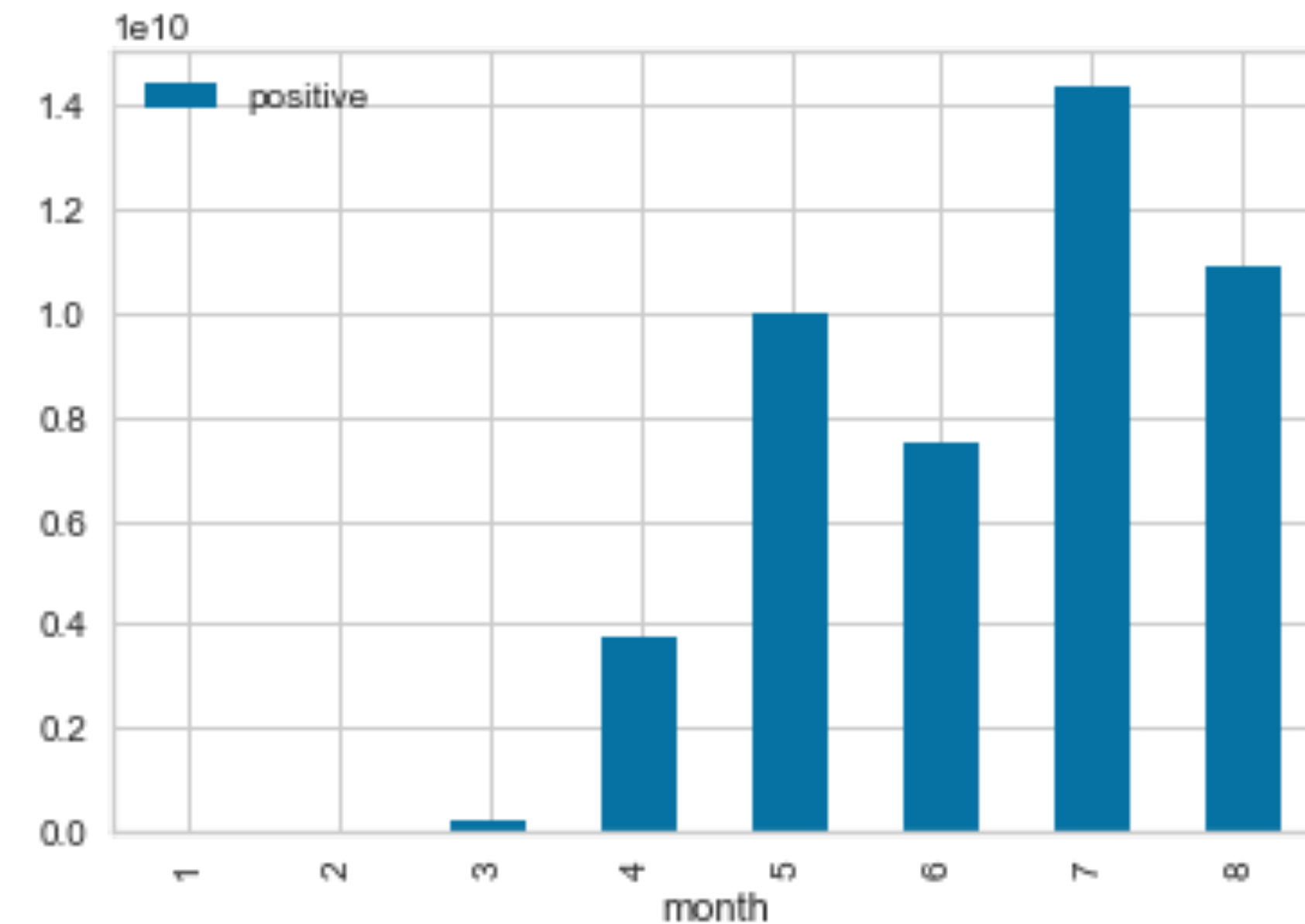


# Deception as a Covid Forecaster

Monthly Deception Tracker



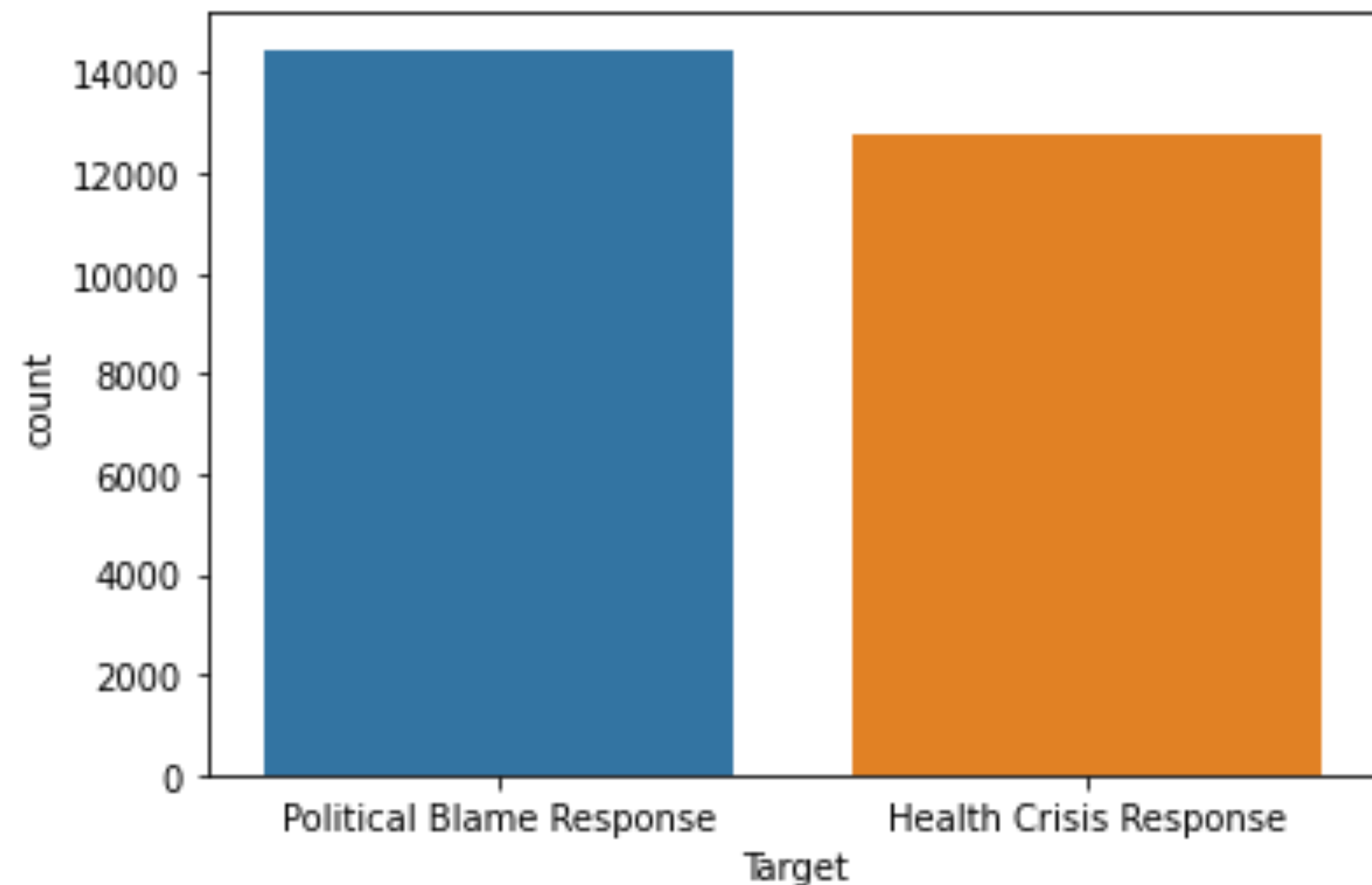
Monthly Covid Tracker



The deception tracker appears to forecast movements one month in advance in the Covid Tracker. The Pearson coefficient between both variables is .02 which is pretty low. However, as deceptive tweets related to Covid increase in a month, one can expect growth in Covid cases in the next month. Likewise, a decrease in deceptive texts leads to a decrease in cases the following month.

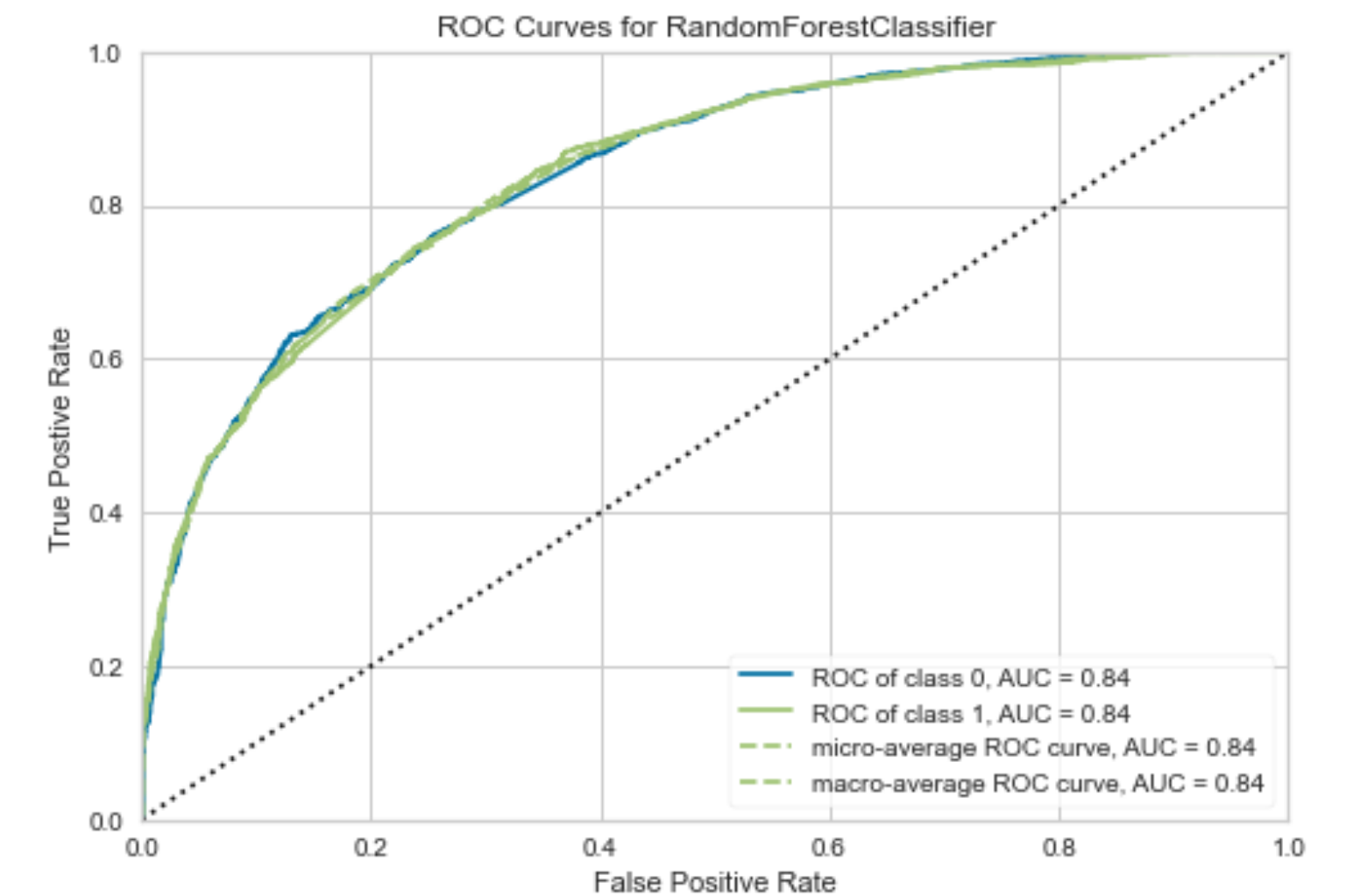
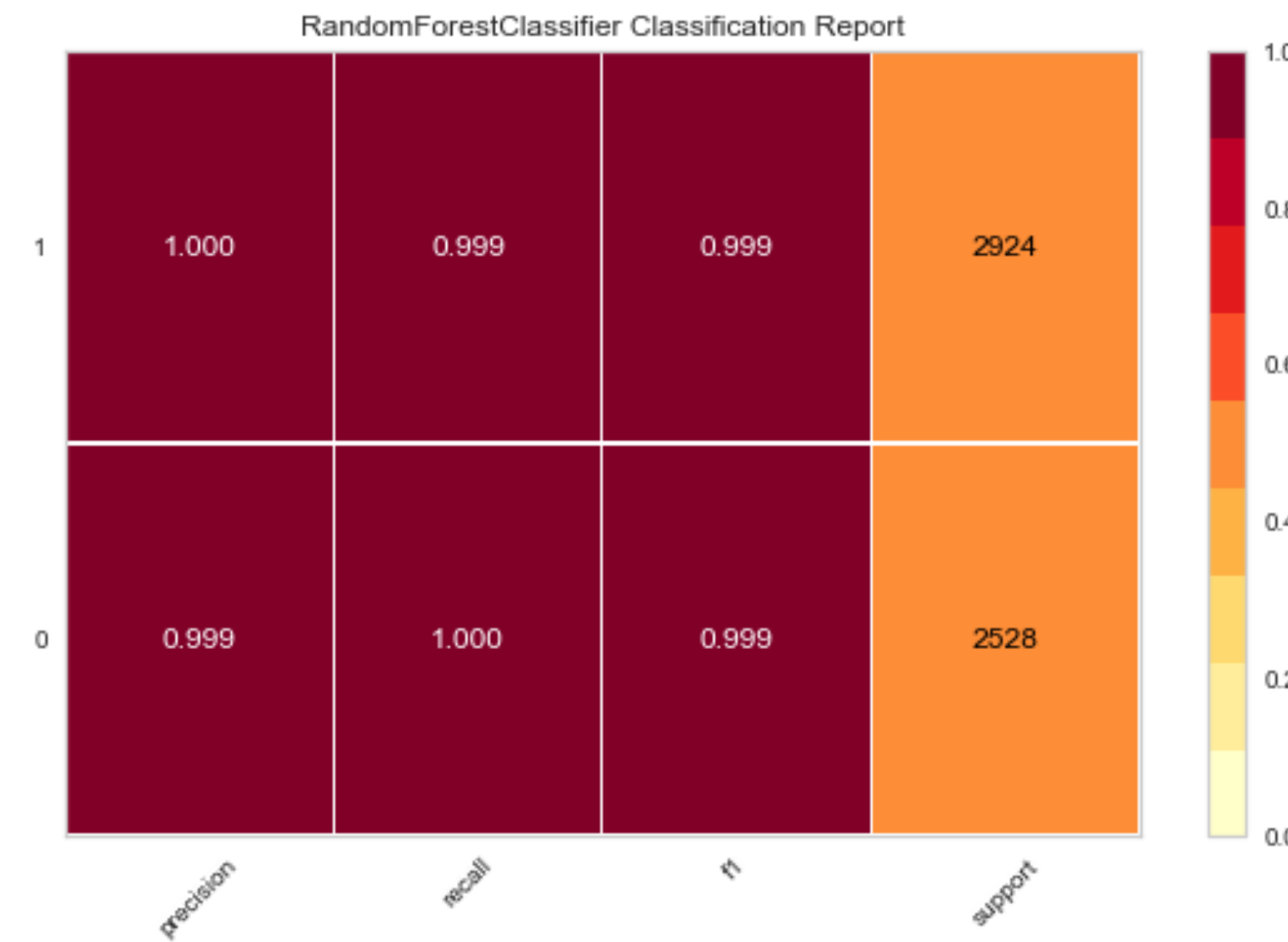
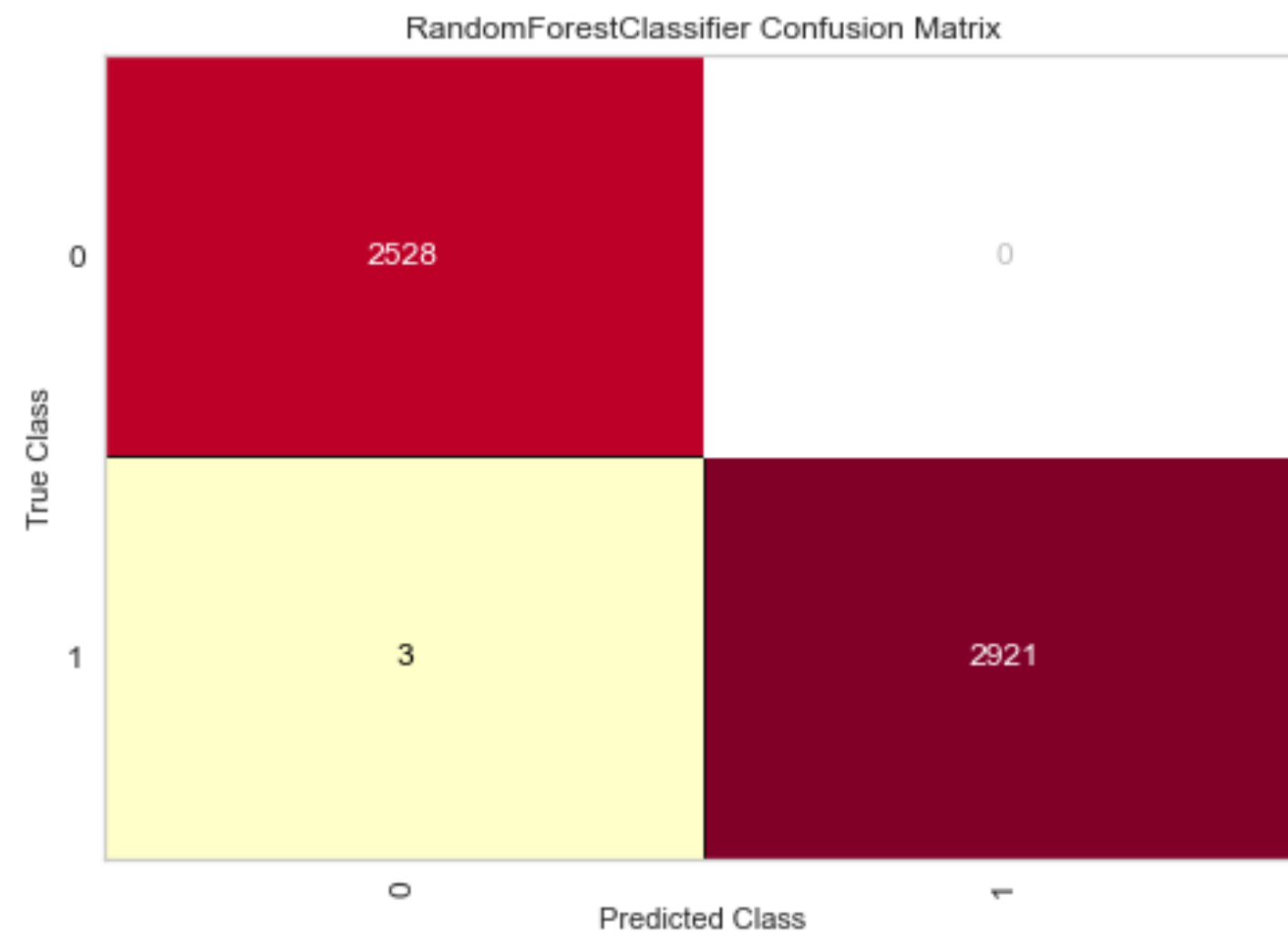


# Classifying Response to Pandemic



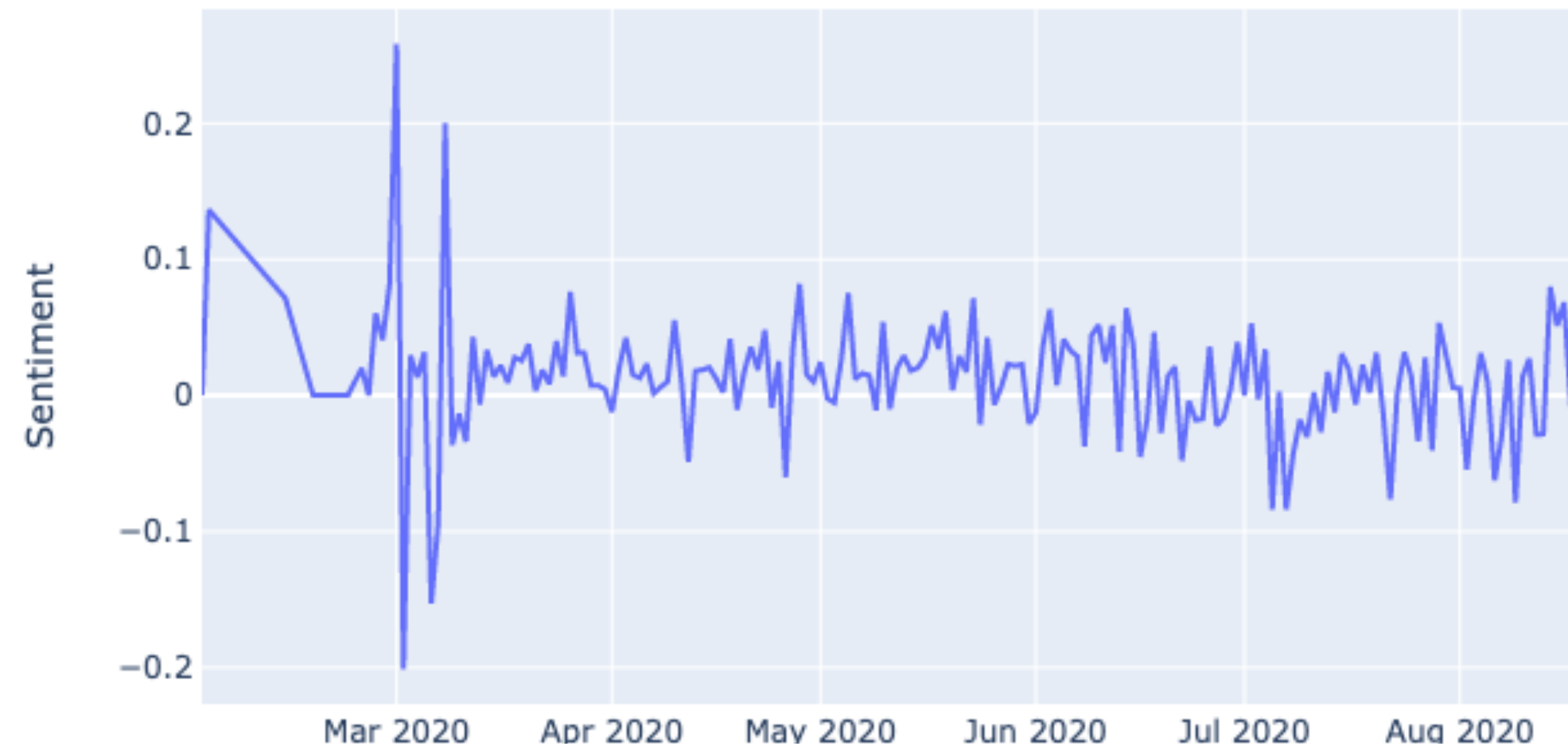
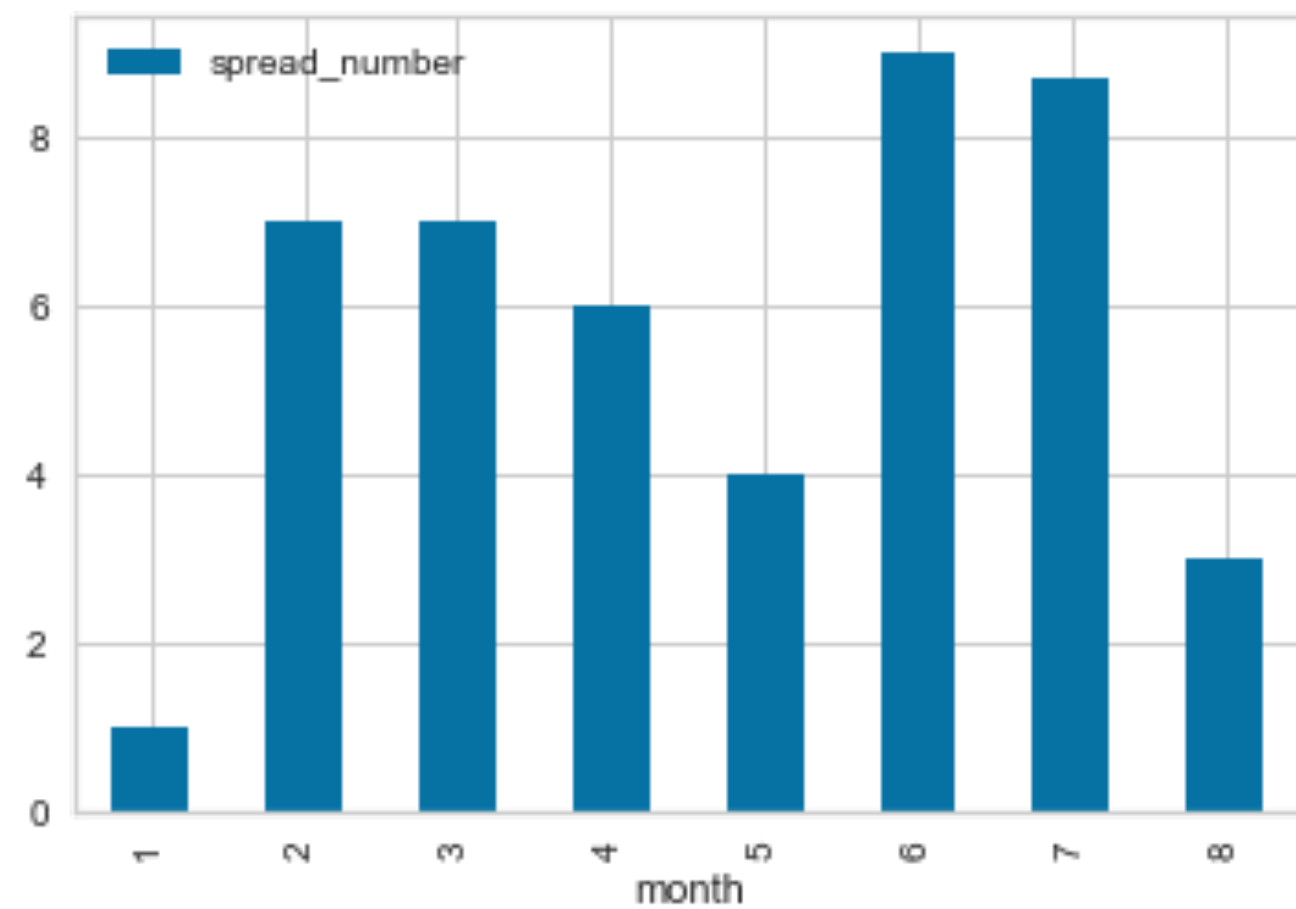
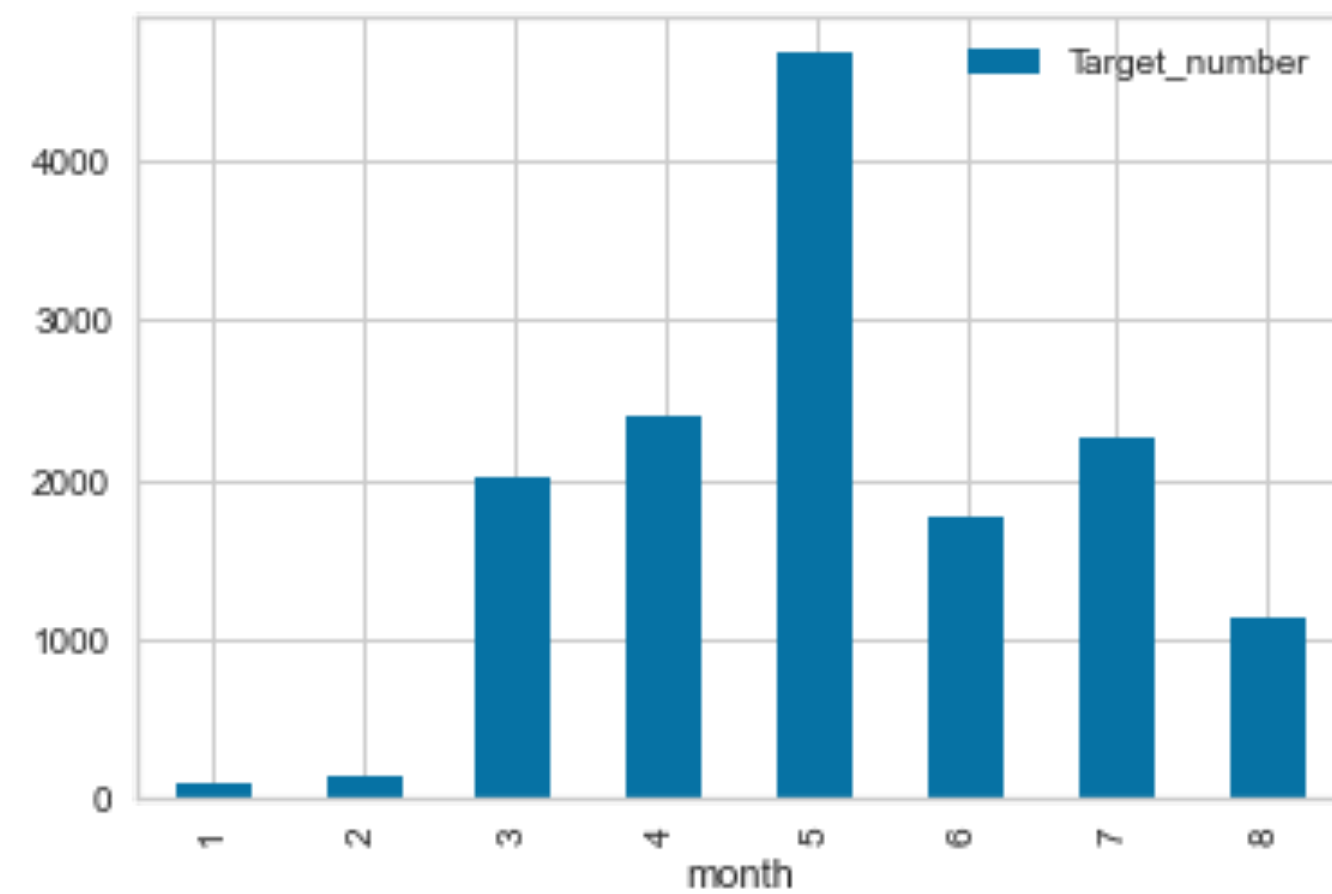
- Based on the 5 topics that were produced by our LDA model, two types of responses were prominent in the dataset
- Political Blame Response: Tweets where a political figure is blamed for the current plight faced by the country
- Health Crisis Response: Tweets where focus is on problems created by pandemic and no noticeable blame is evident

# Classifying Future Tweets



A Random Forest Classifier provides the perfect combination of accuracy with the training/test data. The ROC Curve also indicates that new tweets will be classified well and won't simply replicate findings from training data - no overfitting.

# Response Type And Poll Spreads



The immediate impact of political blame on poll spreads has waned over time. As the sentiment graph suggests, many Americans were initially deeply disturbed by Covid in March, but have relatively neutral with a trend toward slightly negative in the months post-June

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# Recommendations/Take Aways

- Politicians should drive Twitter conversations around how their plans aim to reduce the loss of life and help provide relief to those that are in need of resources
- School administrations should monitor level of deception in tweets sent nationally to put in place necessary programs to thwart future outbreaks
- Ideal tweet that is viewed as trustworthy should be at or below 175 characters and possess less nouns/adjectives and more verbs.
- Sentiment analysis over time suggests that some in the public might be experiencing Covid fatigue and aren't as moved by case/death milestones
- Less variation in sentiment also highlights possibility that undecided voters might be swayed to vote for a candidate for an issue other than Covid. High energy related to Covid matters held by partisans already locked into their respective candidates

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# Future Work

- Current analysis focused on text classification of tweets related to Covid-19 response in America
  - Additional modeling work to potentially quantify how deception impacts change in positive cases
  - Additional modeling work to quantify how assigned blame impacts change in spread in presidential poll numbers
  - Predictive text generator that can construct tweets based on chosen author to see difference in styles