



# #MASKS

# THROUGHOUT COVID-19

Twitter Sentiment Analysis



## EXPERT SENTIMENT OVER TIME

"Seriously people- **STOP BUYING MASKS!** They are **NOT effective** in preventing general public from catching #Coronavirus..."

@Surgeon\_General  
2020.02.29

"...wearing a face covering is something **we all can — and should** — do to protect each other... **wear a face covering** when out in public...."

@Surgeon\_General  
2020.05.23

**-0.7536**

Vader Sentiment Score

**0.7108**

## DATE RANGE

January 1, 2020

-

May 31, 2020

## SEARCH TERMS

(mask OR masks)

+

(covid OR covid19 OR corona OR coronavirus)

## TOTAL TWEETS

5,000 tweets/day  
(580,000)

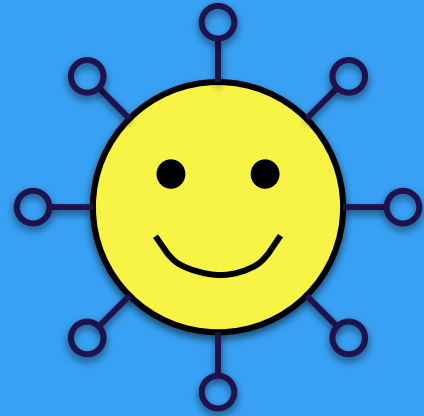
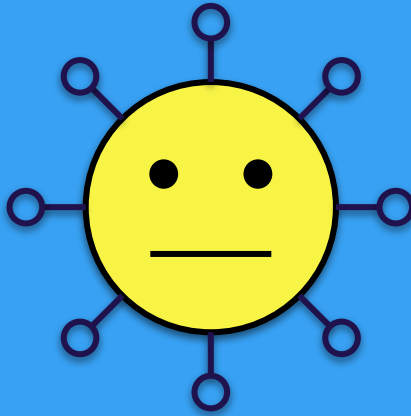
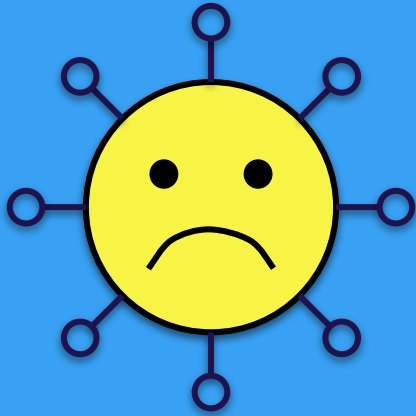
## OTHER INFO

# of likes

# of replies

# of retweets

# TARGET!



# ROADMAP

1

Scrape and  
Prep Data

2

Target Variable  
Creation

3

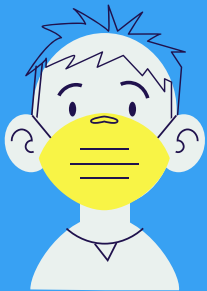
Feature  
Engineering

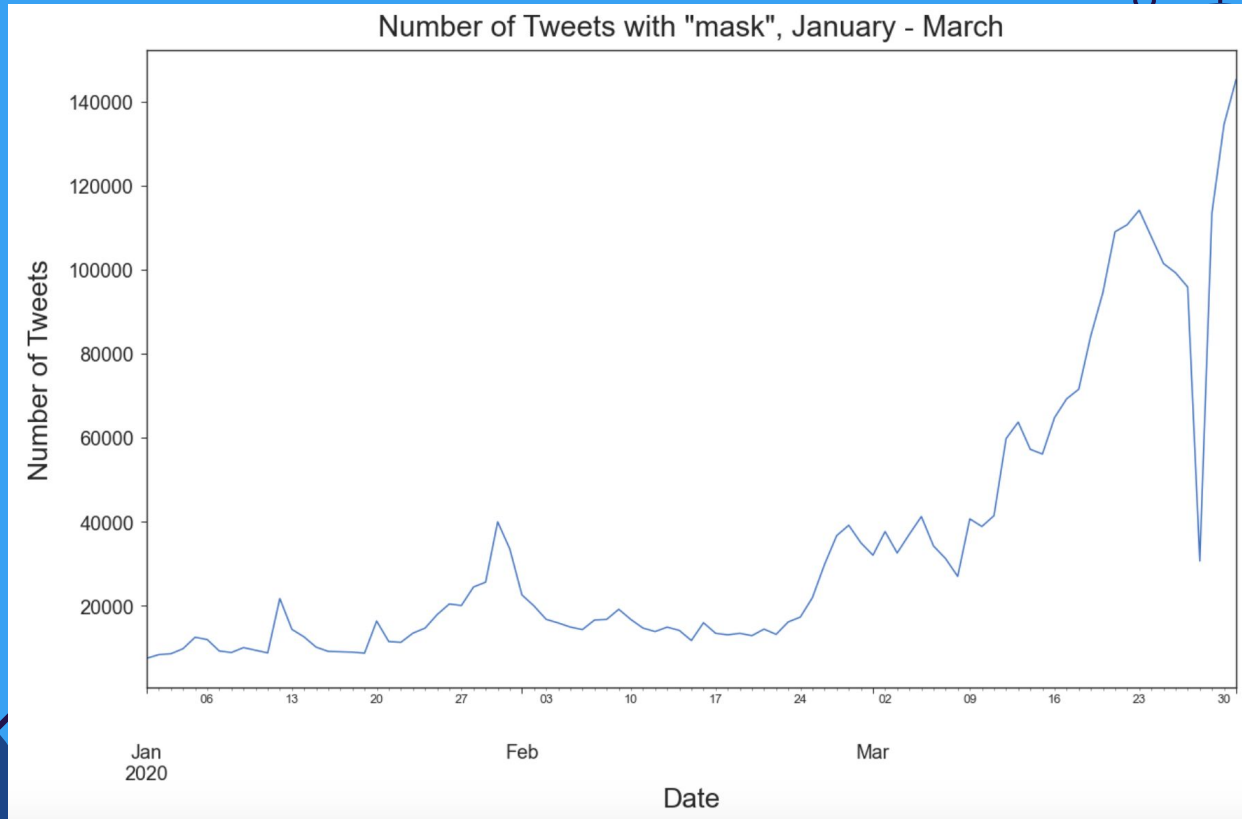
4

Exploratory  
Data Analysis

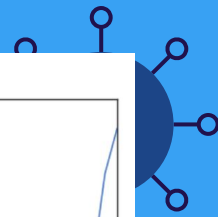
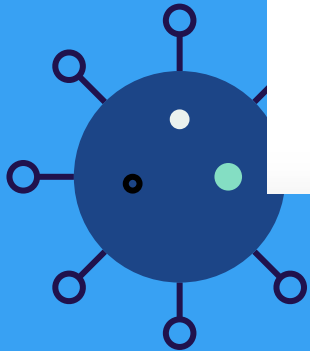
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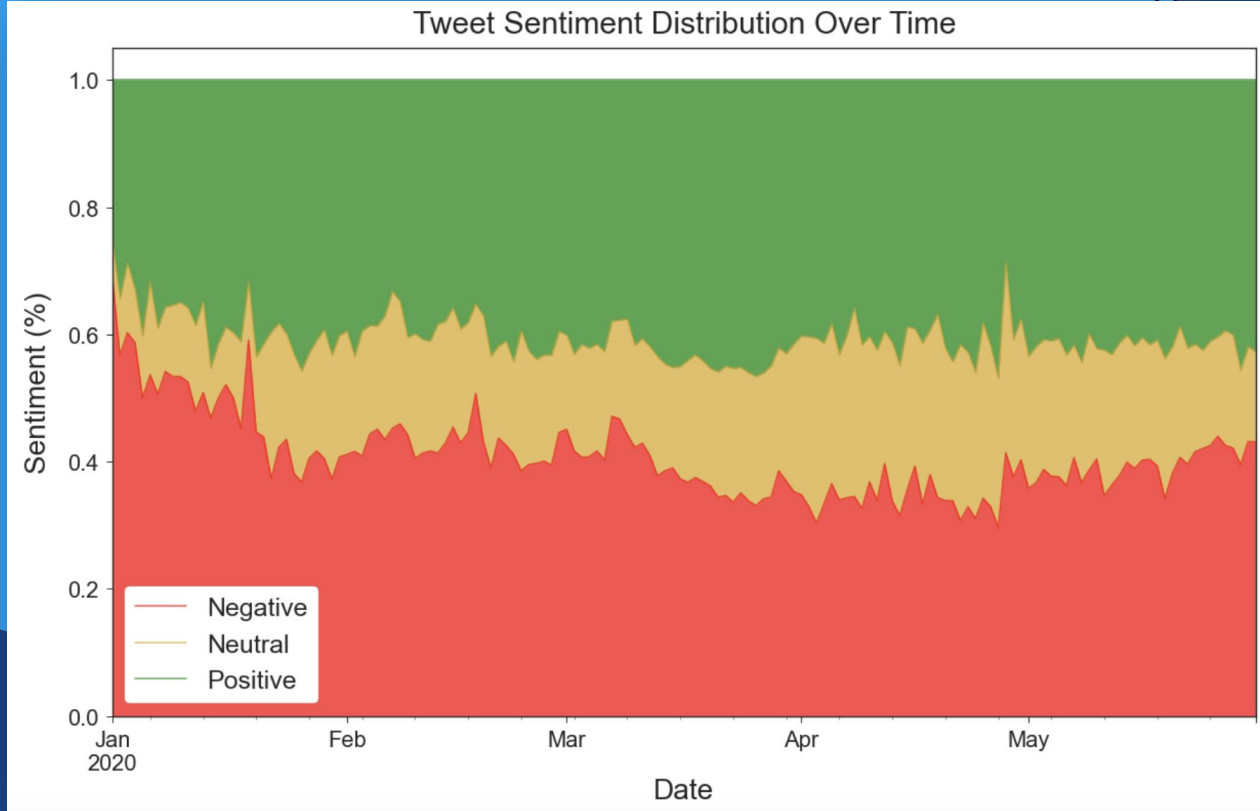
Prediction  
Modeling





\*Unknown Anomaly on Mar 28





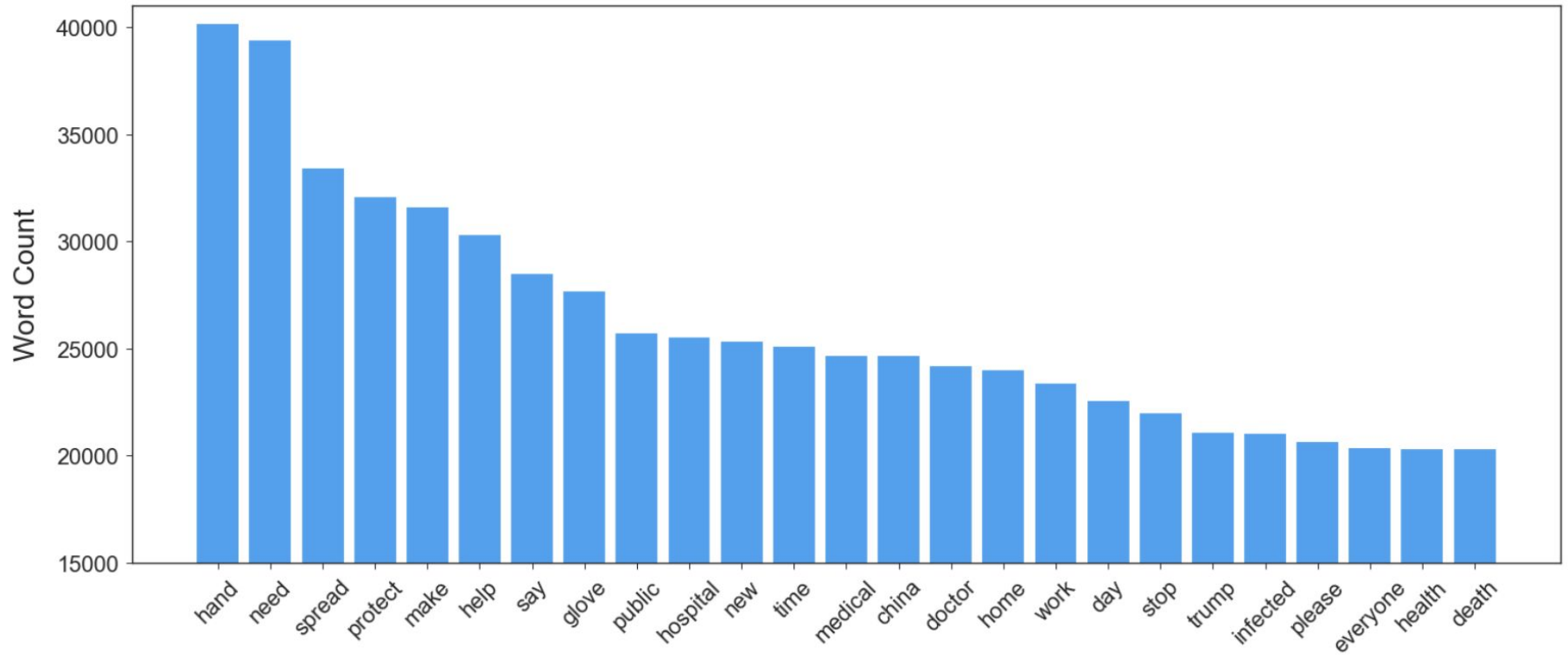
# NLP FEATURES AND ANALYSIS

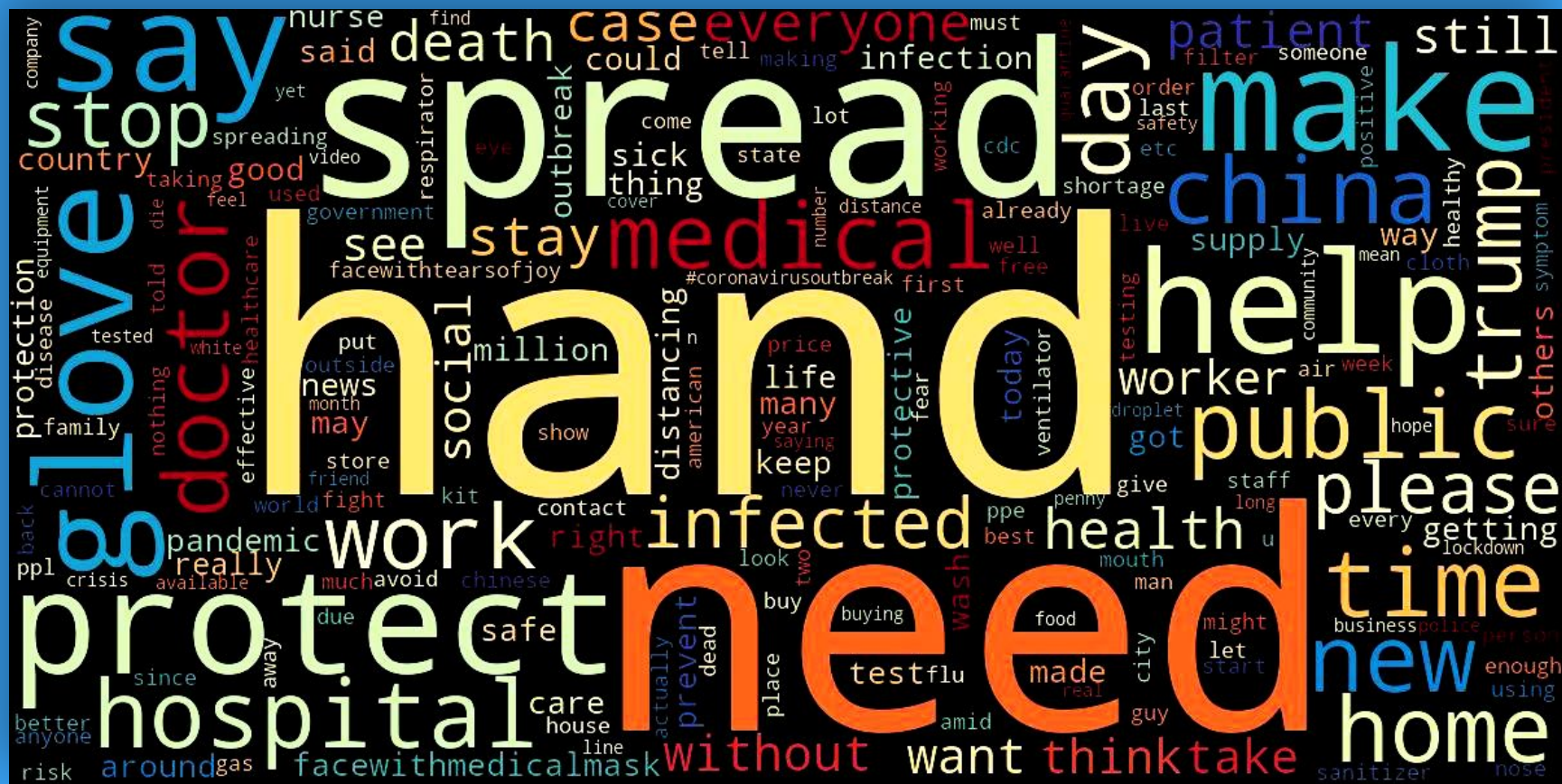


Text cleaning, topic modeling, subjectivity scoring

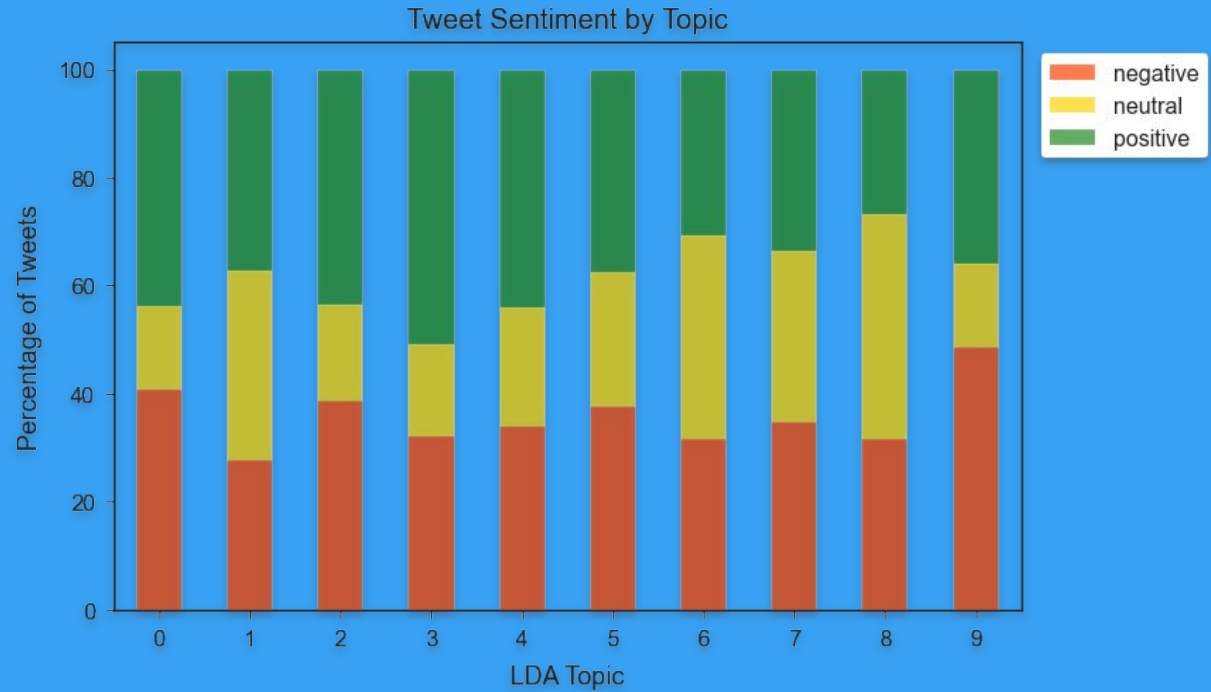


Top 25 Words





0. Protests, without masks
1. Mask advertisements
2. Biden, social distancing
3. Social distancing, protect others
4. Fauci, regulations
5. Lockdown, testing
6. News, statistics
7. Trump, protests
8. Protests, essential services
9. Social distancing, death, Trump



# TOPIC MODELING



# PREDICTION MODEL FEATURE IMPORTANCE



## IMPORTANT FEATURES



'#fight'  
'incompetence'

ACCURACY

71.3%

F1 SCORE

71.5%

Naive Bayes

## IMPORTANT FEATURES

'protect'  
'infected'  
'help'  
'safe'

ACCURACY

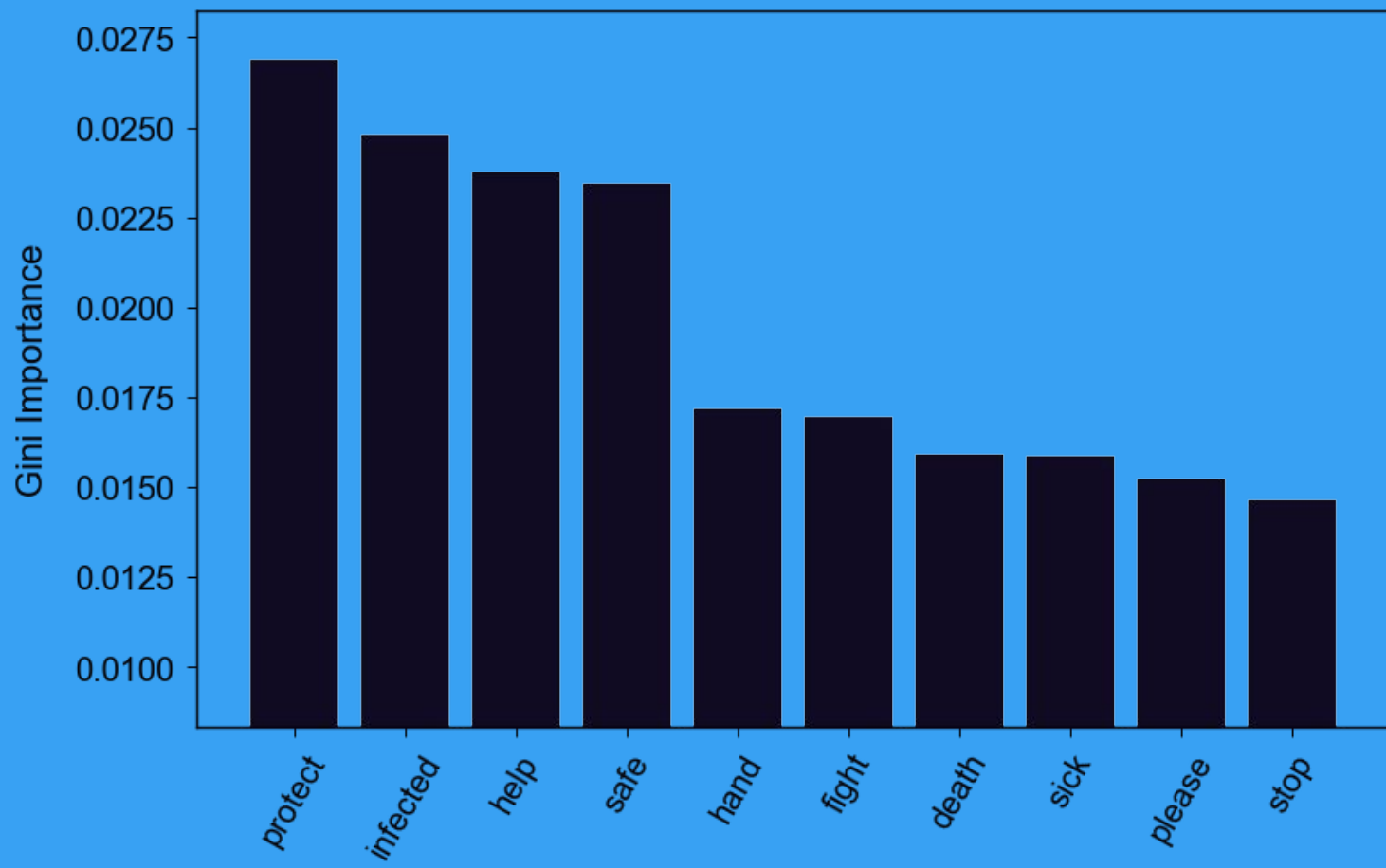
76.8%

F1 SCORE

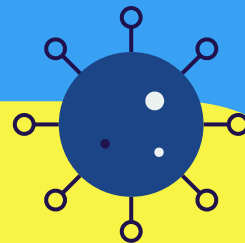
76.7%

Decision Tree

Decision Tree Feature Importances



# TAKEAWAYS AND FUTURE CONSIDERATIONS

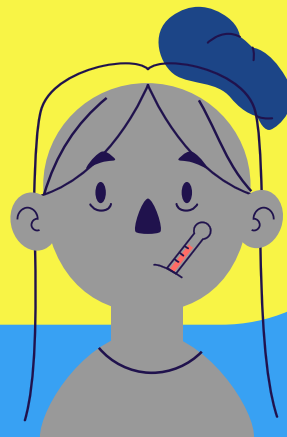
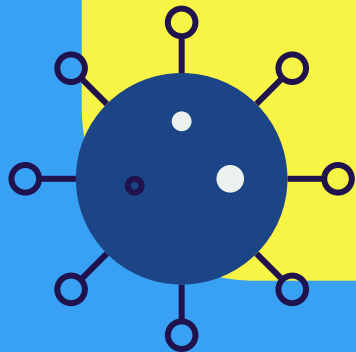


Overall sentiment is fairly divided

Words-only models worked much better

Try a deep learning model

Opinion mining toward “mask(s)”



**QUESTIONS?**

