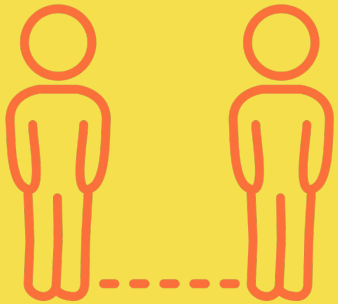
COVID-19 EXPRESSED SENTIMENTS & SOCIAL DISTANCING

Swetha Pola, Akaash Kambath, & Katie Cason

THE IDEA

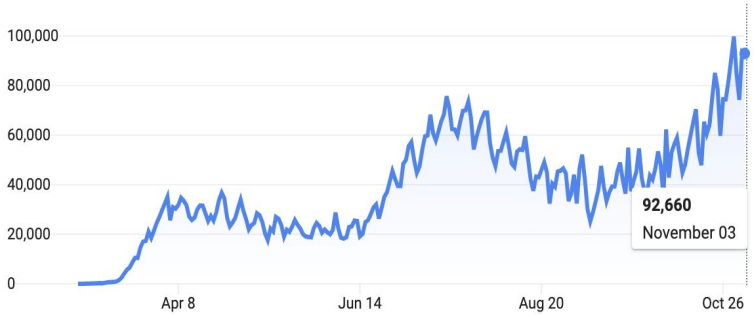
use tweet sentiment analysis to predict mobility in counties throughout California



MOTIVATION

Support public health officials in resource allocation and intervention development for targeted areas at high risk for the spread of COVID-19.

rising COVID-19 rates in the U.S.



COVID-19 misinformation

THE DATA

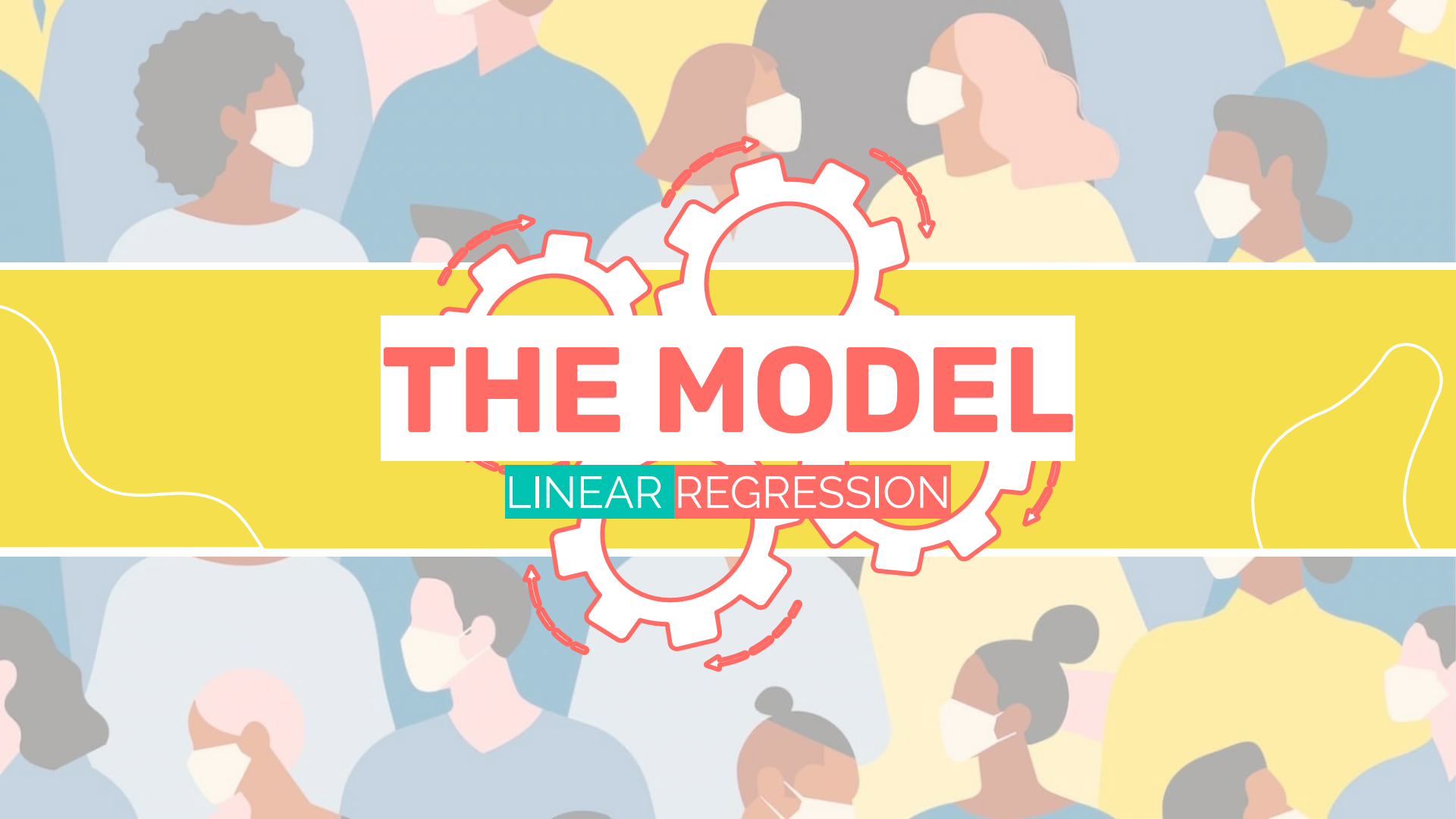
	DATE	WEEKEND?	TWEET SENTIMENT	CALIFORNIA COUNTY ONE HOT ENCODED	POLITICAL AFFILIATION OF TWEET COUNTY	% OF COUNTY AGE 20-30
TWEET 1	03/30/2020	1	0.06	0	38% democrat	12%
TWEET 2	...	0	0.11	1	51% republican	11.5%
TWEET 3	09/20/2020	1	1.16	0	55% democrat	8.3%

Reece, A.G., Reagan, A.J., Lix, K.L.M. *et al.*

THE OUTCOME VARIABLE(S)

Residential Mobility

Public Mobility


THE MODEL
LINEAR REGRESSION

MODEL CONSTRUCTION

TWEETS

01

map to county, date, day of week, & sentiment analysis

COUNTY INFO

02

% in their 20s & political behavior

MOBILITY PREDICTIONS

03

predict public & residential mobility

MODEL PERFORMANCE

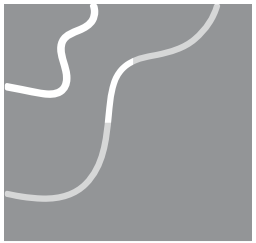
MARGIN

15

11

100%

Residential Mobility

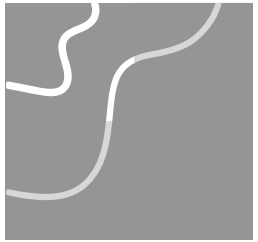


94.73%

Public Mobility

98.54%

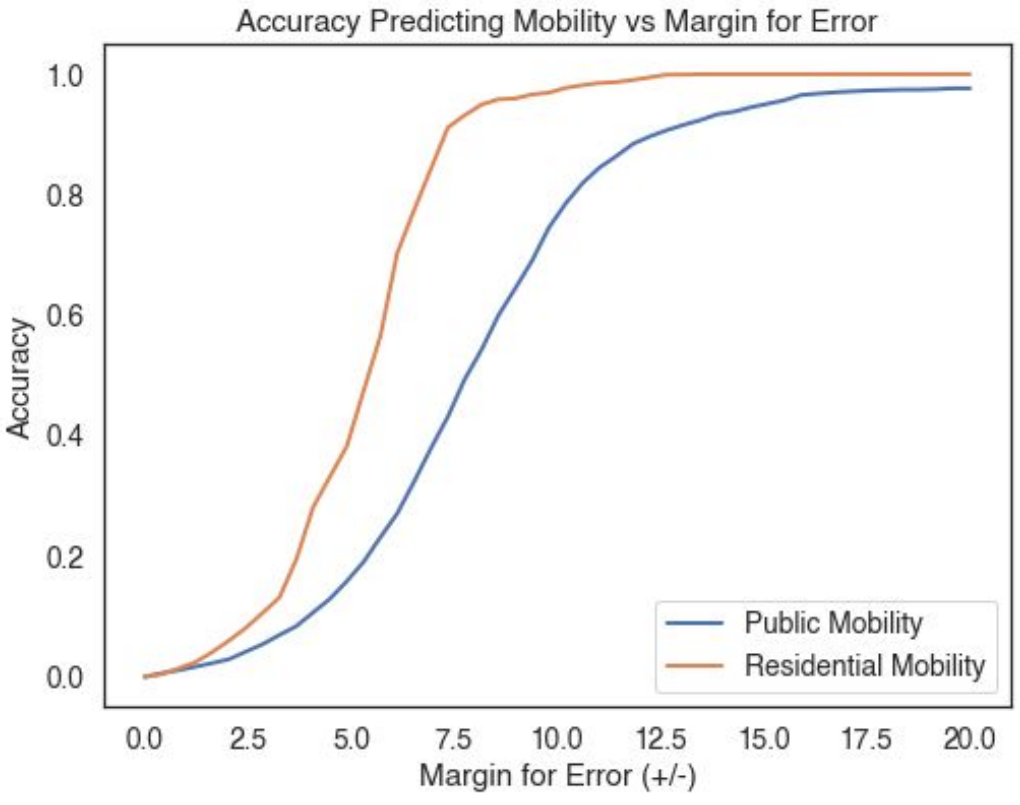
Residential Mobility



84.42%

Public Mobility

ACCURACY BY MARGIN



USE CASE

County A

+30

+20

+40

County B

+0

-10

+10

FUTURE IDEAS

01 Acquire Tweet Data at Scale

02 Featurize Conditional Patterns

03 Generalize to more States

TAKEAWAYS

Social media analysis can support public health officials in resource allocation and intervention development for targeted areas at high risk for the spread of COVID-19.

Thank You!

Questions?

Link to Repo

references

- https://www.nytimes.com/2020/09/30/us/politics/trump-coronavirus-misinformation.html
- https://www.jmir.org/2020/8/e22590/
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- https://www.rand.org/content/dam/rand/pubs/rgs_dissertations/RGSD300/RGSD391/RAND_RGSD391.pdf
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