

Accident Severity in Texas

Group 5: Angie Tran, Chris Haub,
Juveriya Baig, Ryan Permenter

Agenda

1

Inspiration
and
Overview

2

Data and Modeling
Approach

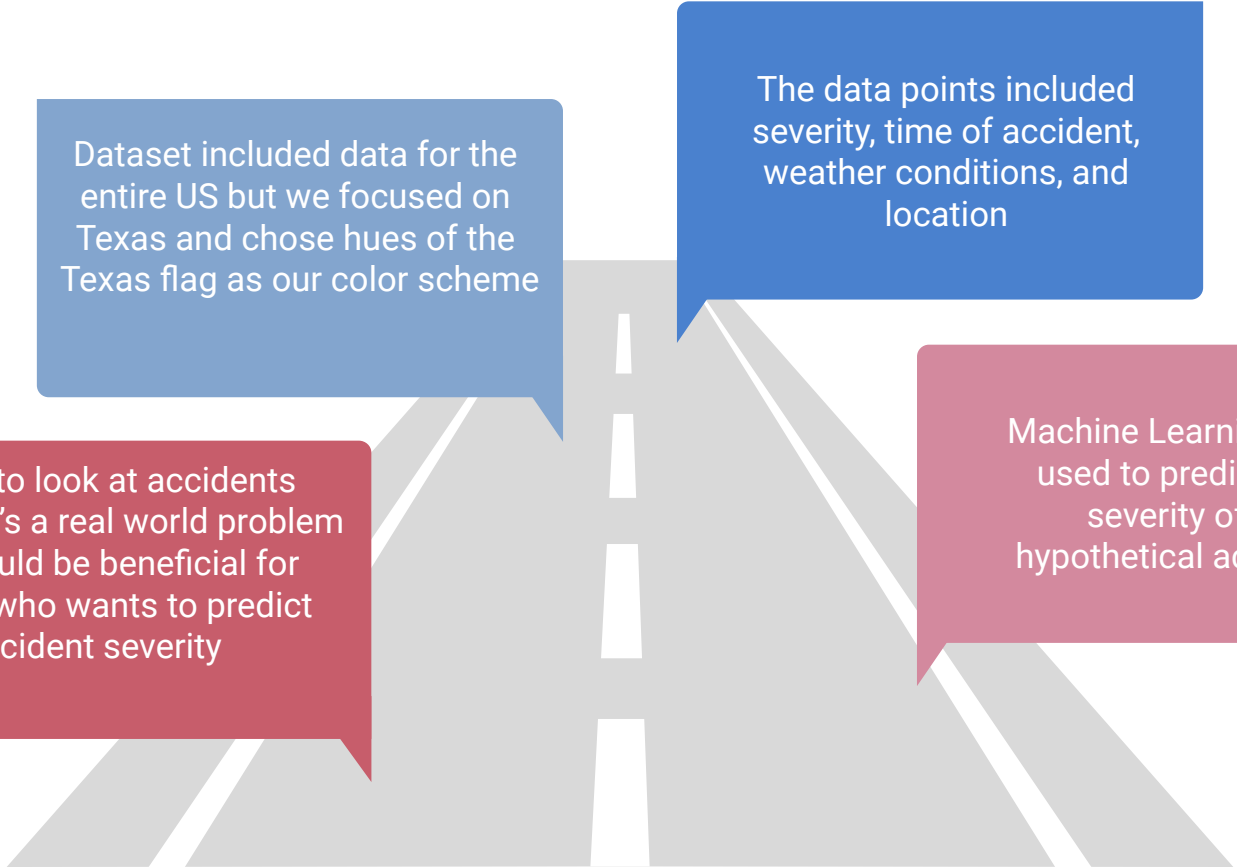
3

Demo

4

Limitations, Future
Work, and
Conclusions

Inspiration and Overview



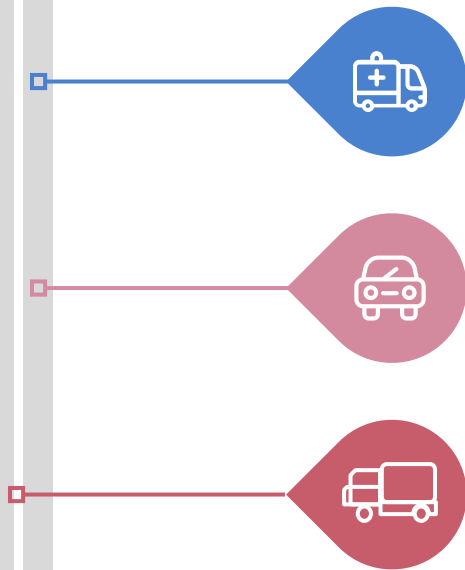
Dataset included data for the entire US but we focused on Texas and chose hues of the Texas flag as our color scheme

The data points included severity, time of accident, weather conditions, and location

Chose to look at accidents because it's a real world problem and would be beneficial for anyone who wants to predict accident severity

Machine Learning was used to predict the severity of a hypothetical accident

Data and Modeling Approach



CSV

Original CSV was too big of a file, used a sample set for Tableau. CSV includes data from mid 2016-2020

Cleaning

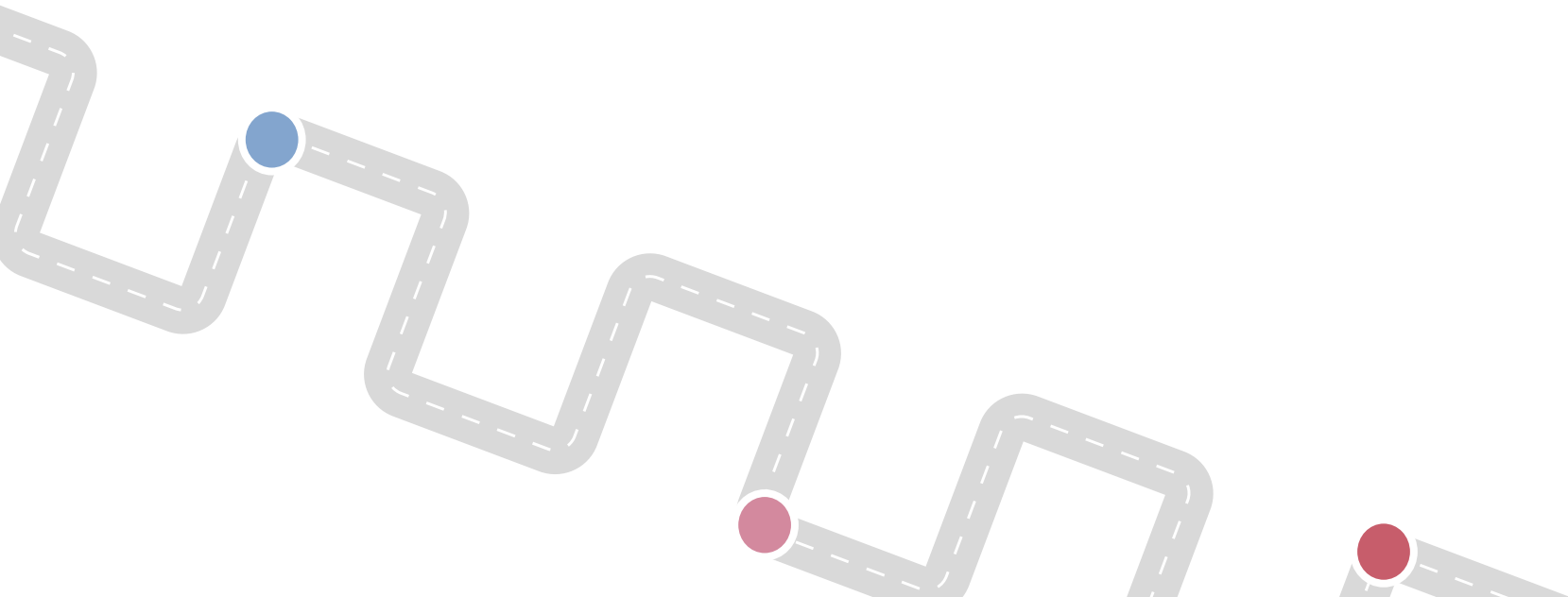
Weather Conditions were repetitive/had overlaps so it was cleaned and put into 6 different weather groups: Clear, Rain, Fog, Snow, Thunderstorm, Haze, Ice, Cloudy

Severity Index

The dataset was made by a Lyft employee, severity is an index for traffic caused by each crash. The severity index in the data ranged from 1-4.

Demo

<https://texas-accidents-smu.herokuapp.com/>



Limitations



No column of number of cars involved in accident.

Data goes back to 2016 and traffic conditions and patterns have changed since then



Data lacked uniformity as notes about accidents were not consistent

Weather conditions are difficult to bucket as they can be fluid or a combination



Future Work

1st

Include more data points to analyze accidents by. This would paint a more accurate picture of severity

2nd

Cross reference weather timestamp in data with a weather API for more accuracy and less user inputs

3rd

Research more details about severity of accidents to go further than a 1-4 scale

Conclusions

2020

Traffic accidents decreased after lockdowns went in affect, however severity increased.

County Size

Large counties had more accidents. The severity of accidents in large counties was less than smaller counties.

Severity

About 98% of all accidents are classified as a 2 or a 3.

Harris County

Harris county in Houston has the most number of accidents in Texas, most years.



Questions?