

FIRST UP
CONSULTANTS

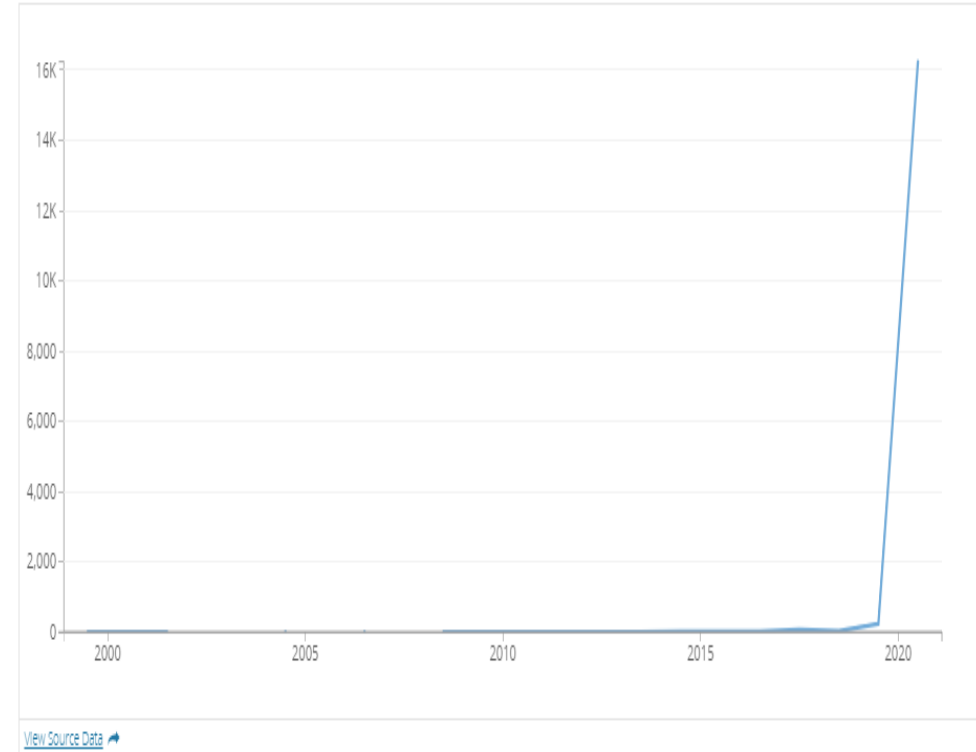
CAPSTONE PROJECT

Safe or Unsafe ?



BACKGROUND

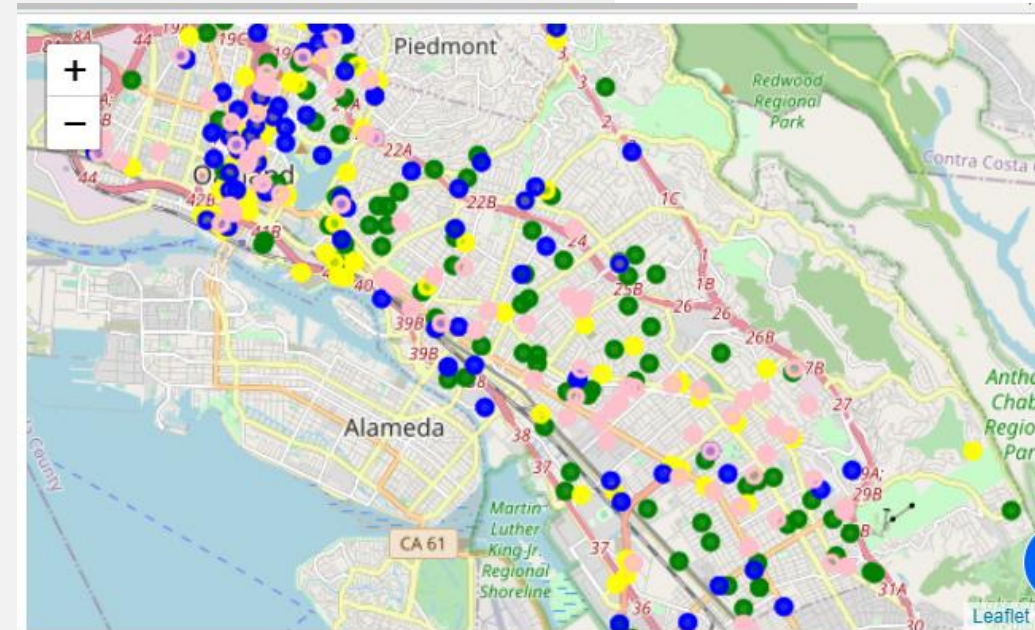
- As a student, I have found myself travelling alone at night, which is a universal cause of concern for parents around the world.
- I have to travel to Oakland which has been to be one of the most dangerous cities in the USA.
- If I am able to build a model which can predict which areas have a high probability of being unsafe at a particular time I can consciously avoid those areas.
- The image depicts a spike in cases in 2020 in Oakland which compelled me to use this as topic for the project.



Preview of [CrimeWatch Maps Past 90-Days](#)

DATA ACQUISITION AND CLEANING

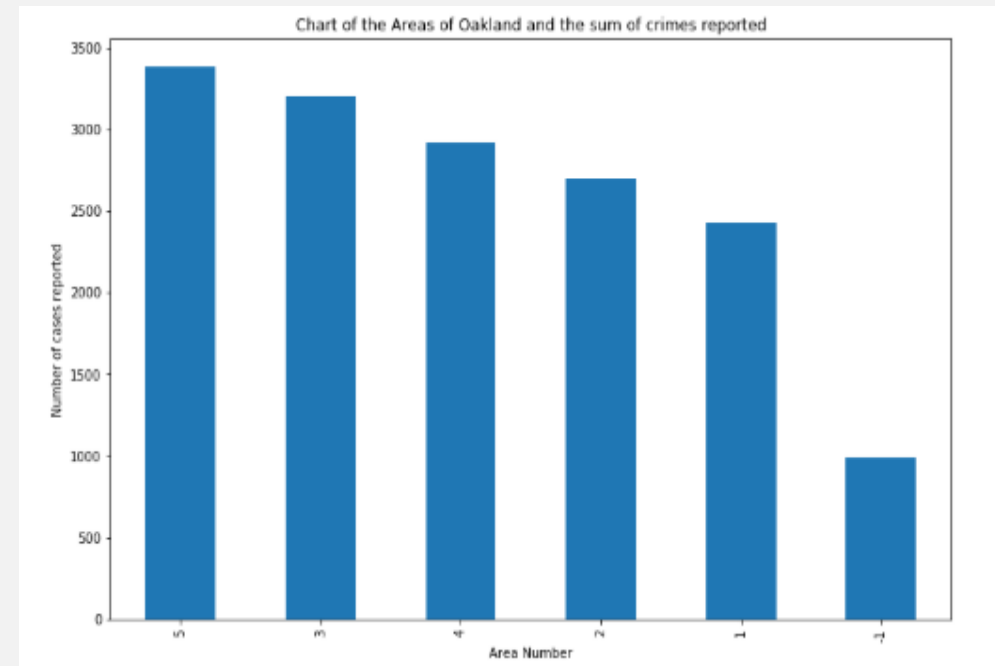
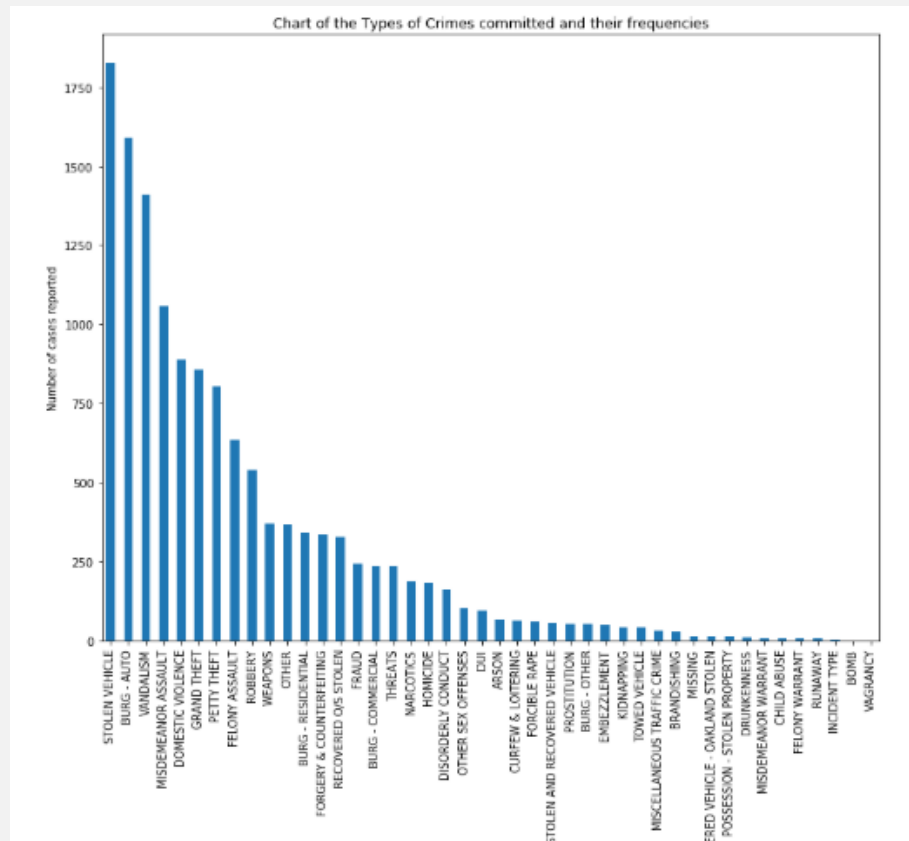
- Original Dataset was obtained from the Oakland Police Criminal Records page.
- The information about the areas and police beats was also obtained from that page.
- The data was obtained in csv form and the address column had to be cleaned to use the latitude and longitude columns. The datetime column was used to extract the day, month and time of the crime reported.
- The image is the map of the top 3 crimes committed and their location on the Oakland map



FEATURES GRAPHED TO SEE IF THEY WOULD AFFECT THE SAFETY COLUMN

Segregation by crime

- Segregation by area



METHODOLOGY

Decision Tree

- Features : Area, Day, Time
- Target : Safety
- Accuracy : 62.8%

RESULTS AND DISCUSSION

- Thus we were able to build a predictive model which is able to tell whether or not an area is safe given the area number, the time of day and the day of the week.
- During the data analysis we found that there were certain areas which had a greater crime rate than the others and this seems to match the information available on the internet about the neighborhoods in Oakland (Rockridge is the safest). We also found that the time slots really showed a stark difference in the crime rates.
- Surprisingly, we find that 4pm-8pm is the most common time for a crime to take place when that is actually the time when the public, students and workers complete their work or classes for the day and are heading home or heading out with friends.

THANK YOU