**Fight On!**

1. **Problem Statement**

Every country in this world has crime: robbery, murders, violence and more. Most of the time, crime is seemingly random. However, we think that crime depends on a lot of external factors which may not always be evident. There are a lot of influencers of crime and the more we understand these, the more we get near to reducing them. In recent times, discussions and outrage on social media after major crimes are widespread, thus, we want to see if this influences factors such as conviction rate, processing time, severity of punishments etc.

**Importance of Issue**:

The analysis and insights that we gain from this project will help us correlate what factors affect the crime rate and how improving on those factors can help mitigate crimes. It will lead to the overall improvement in the quality of life.

1. **Research Hypothesis**

We hypothesize that social media reactions to crimes can influence how the crime is interpreted and processed. Another hypothesis is that unrelated factors can affect crime, and we aim to analyze data to uncover trends and make crime predictions. Particularly, we want to focus on LA area and USC.

Questions we want to answer:

* How effective is social outrage in criminal justice?
* Resolution rate comparison in various cities after social media outrage
* How does gender ratio in the population of a city correlate with crime levels?
* How does enrollment of international students affect the crime rate around USC?
* How quick is a crime resolved in USC?

1. **Methodology**
2. Find more relevant datasets - LA Crime datasets, Twitter Data, local datasets from DPS and USC.
3. Clean, preprocess, structure the data to ensure the data is usable and reliable.
4. Run analysis of data to find trends and patterns using unsupervised learning algorithms like clustering; classification algorithms like k - Nearest Neighbor, Support Vector Machine etc.
5. Visualize the data to find visual trends.

**Datasets:**

1. FBI Crime Database

The FBI Uniform Crime Report Program collects data of violent crimes, property crimes, homicides, weapons as well as of persons arrested. The dataset contains data from 1995-2017

Dataset:

[*https://ucr.fbi.gov/crime-in-the-u.s*](https://ucr.fbi.gov/crime-in-the-u.s)

1. US Cities Crime Dataset

Each row in reports a unique crime incident report. We have data for the following major US Cities: Los Angeles, Seattle, Chicago. The data varies from 2001 to present.

Dataset(s):

[*https://data.seattle.gov/Public-Safety/Crime-Data/4fs7-3vj5*](https://data.seattle.gov/Public-Safety/Crime-Data/4fs7-3vj5)

[*https://data.lacity.org/A-Safe-City/Crime-Data-from-2010-to-Present/y8tr-7khq*](https://data.lacity.org/A-Safe-City/Crime-Data-from-2010-to-Present/y8tr-7khq)

[*https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present/ijzp-q8t2*](https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present/ijzp-q8t2)

[*https://catalog.data.gov/dataset/crime-data-from-2010-to-present/resource/523f07de-cb11-425c-acb9-10e5aa4f12e0*](https://catalog.data.gov/dataset/crime-data-from-2010-to-present/resource/523f07de-cb11-425c-acb9-10e5aa4f12e0)

1. **Related Literature**
2. Crime Rate Inference with Big Data: <http://www.kdd.org/kdd2016/papers/files/adp1044-wangA.pdf>
3. Crime analysis and prediction using data mining: <https://ieeexplore.ieee.org/document/6906719/>
4. Media Effects on Attitude towards Crime Justice System: <https://dc.etsu.edu/cgi/viewcontent.cgi?article=1296&context=honors>
5. Sensing the public’s reaction to crime news using Link Correspondence Method: <https://www.sciencedirect.com/science/article/pii/S0143622814000861>
6. Trigger Crimes & Social Progress: The Tragedy-Outrage-Reform Dynamic in America: <https://scholarship.law.upenn.edu/faculty_scholarship/1738/>