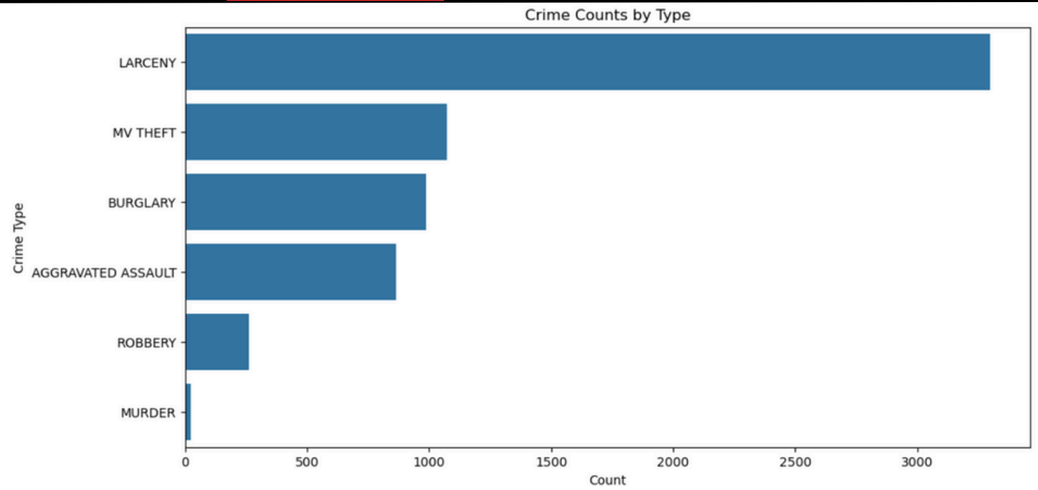
Syracuse Crime Analytics



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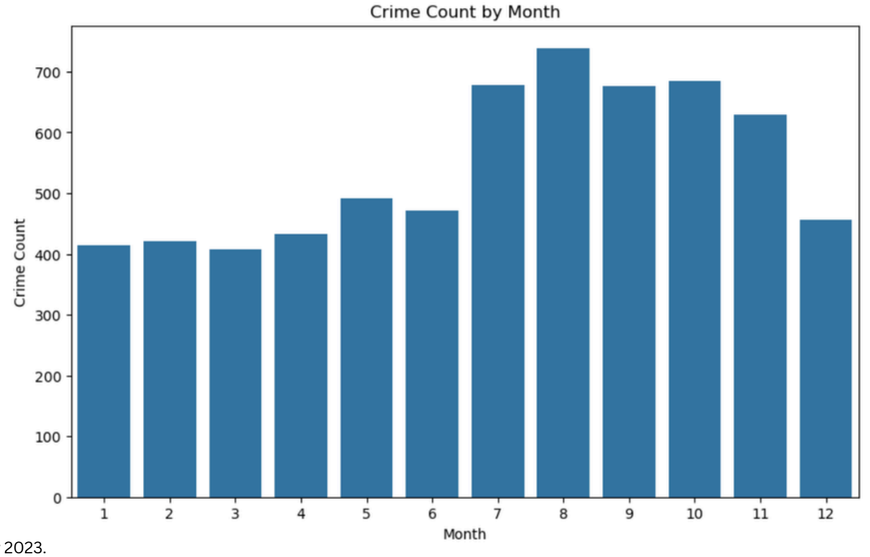
Poster story

The story unfolds with the identification of crime trends over time and across geographical locations, illustrated through bar plots, heatmaps, and time-series visualizations. It then transitions into machine learning insights, highlighting the predictive model's performance and the influential factors behind crime severity. Finally, the project offers actionable insights by mapping hotspots and showcasing prediction results, which empower law enforcement to focus on high-risk areas effectively.

We have used Gradient Boosting Model for crime severity prediction. Its accuracy rate is 82 %.



Poster Motivation:

The motivation for this project is to provide a data-driven approach to tackle crime in Syracuse. With the increasing availability of data, law enforcement agencies can adopt innovative tools to:

- Identify crime hotspots and allocate resources more effectively.
- Understand crime trends over time, helping them anticipate and prevent crimes.
- Use machine learning predictions to forecast the severity of crimes and prioritize intervention strategies for major crimes.
- The project bridges the gap between raw crime data and actionable intelligence, empowering decision-makers with tools to enhance safety and security in Syracuse.

Dataset Description

This is the Syracuse Crime dataset from City of Syracuse Open Data Portal for the year 2023.

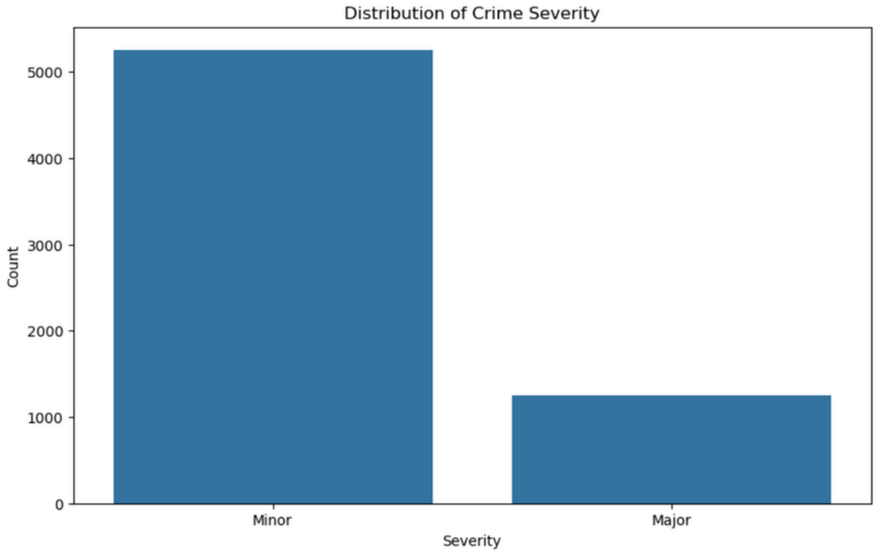
Dataset link:

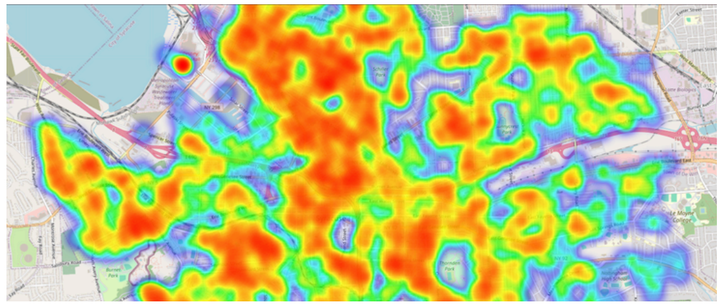
https://data.syr.gov/datasets/94bc33f1a2c646b995d1ab356edf0730_0/about

Tools Used: Jupyter notebook, Canva

Crimes are most frequent during the early hours of the day (midnight to 1:00 AM) and during active periods in the afternoon (2:00 PM to 6:00 PM).

Larceny is overwhelmingly the most common crime, followed by motor vehicle theft and burglary.





Syracuse Crime Heatmap