Knight Foundation School of Computing and Information Sciences / Florida International University

Spring 2024 Junior Design Project

Criminalytics: Pre and Post COVID-19 Lockdown in Miami-Dade

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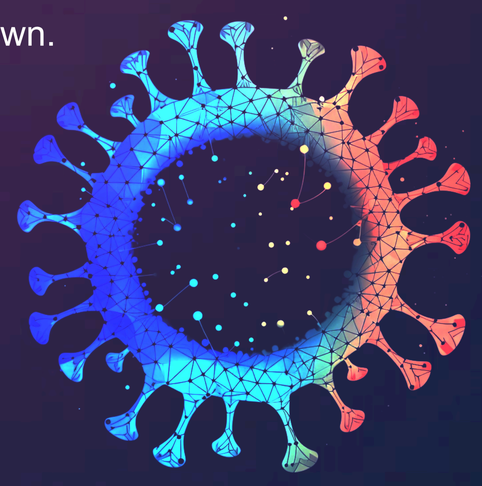
PROJECT OVERVIEW

Our project allows users to access the results of our investigation, filtering the section and the period of interest to explore crime analytics in Miami-Dade before and after the COVID-19 Lockdown.



EXPLORATORY DATA ANALYSIS (EDA)

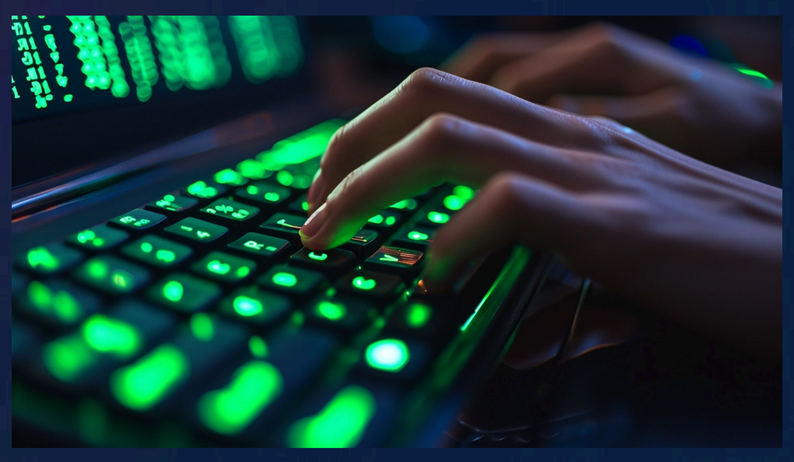
We conducted the EDA phase of our project by exploring the crime datasets using various data analysis techniques and visualization tools.

LESSONS LEARNED

Thorough data analysis is vital for understanding complex phenomena like crime dynamics. Our project shed light on the intricate relationship between external factors, such as the COVID-19 lockdown, and crime rates in Miami-Dade County.

DATA ACQUISITION AND PREPARATION

Our data was acquired from national FBI crime datasets, then filtered by crimes that occurred in Miami-Dade County, and cleaned.



ACHIEVEMENTS

Significant Fluctuations: Crime rates in Miami-Dade County exhibited notable fluctuations before and after the COVID-19 on crime patterns.

Complexity of Crime Dynamics: Findings highlight the multifaceted nature of crime dynamics and the importance of comprehensive strategies.

Crime Categories: Property offenses experienced a decrease during the lockdown, while personal offenses showed varied trends.

Socio-Economic Factors: Analysis underscored the impact of socio-economic factors and geographical locations on crime patterns.

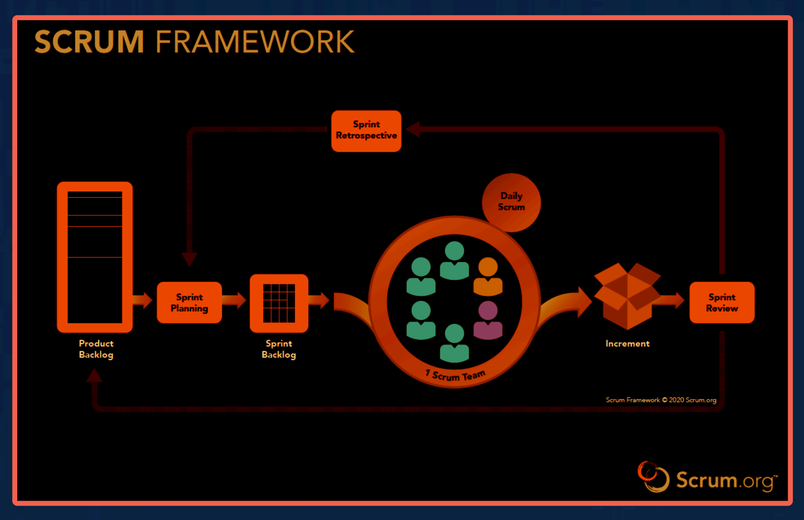
FUTURE DIRECTIONS

We aim to refine our predictive models to anticipate changes in crime patterns more effectively. Additionally, we seek to explore additional data sources and employ advanced analytical techniques to enhance prediction accuracy. Ultimately, our goal is to contribute to proactive and effective crime prevention measures for the community.

DEVELOPMENT ENVIRONMENT SETUP

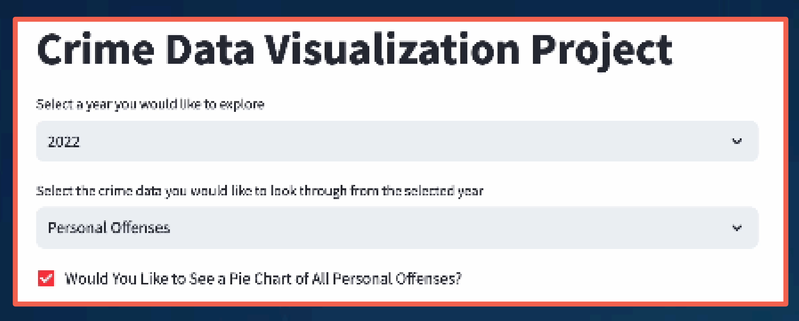
Python · Streamlit · GitHub · Tableau · Whatsapp

COLLABORATION AND PROJECT MANAGEMENT

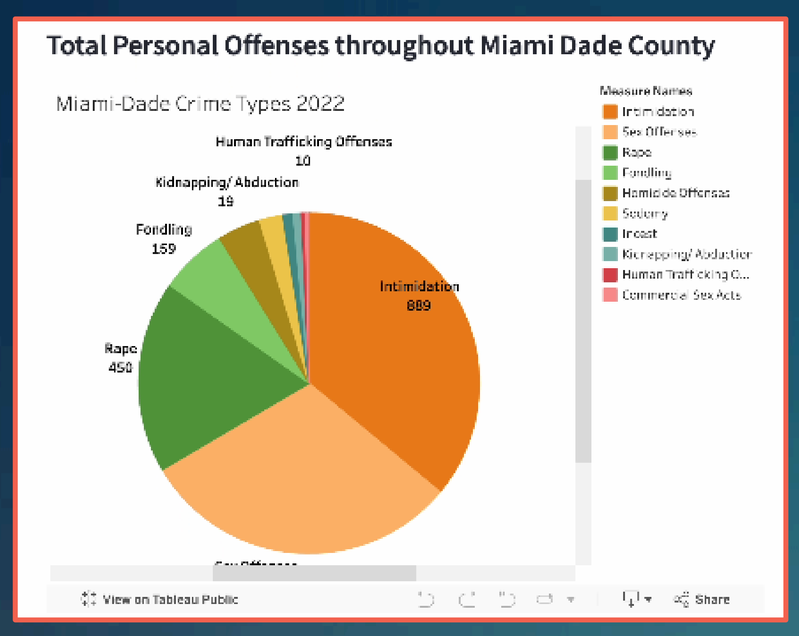


DASHBOARD AND REPORTING FEATURES

We created a dashboard that filters, export data, and generate reports.



PREDICTIVE MODELING



ACKNOWLEDGEMENT
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