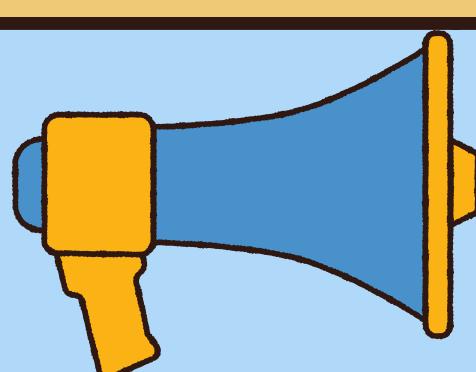
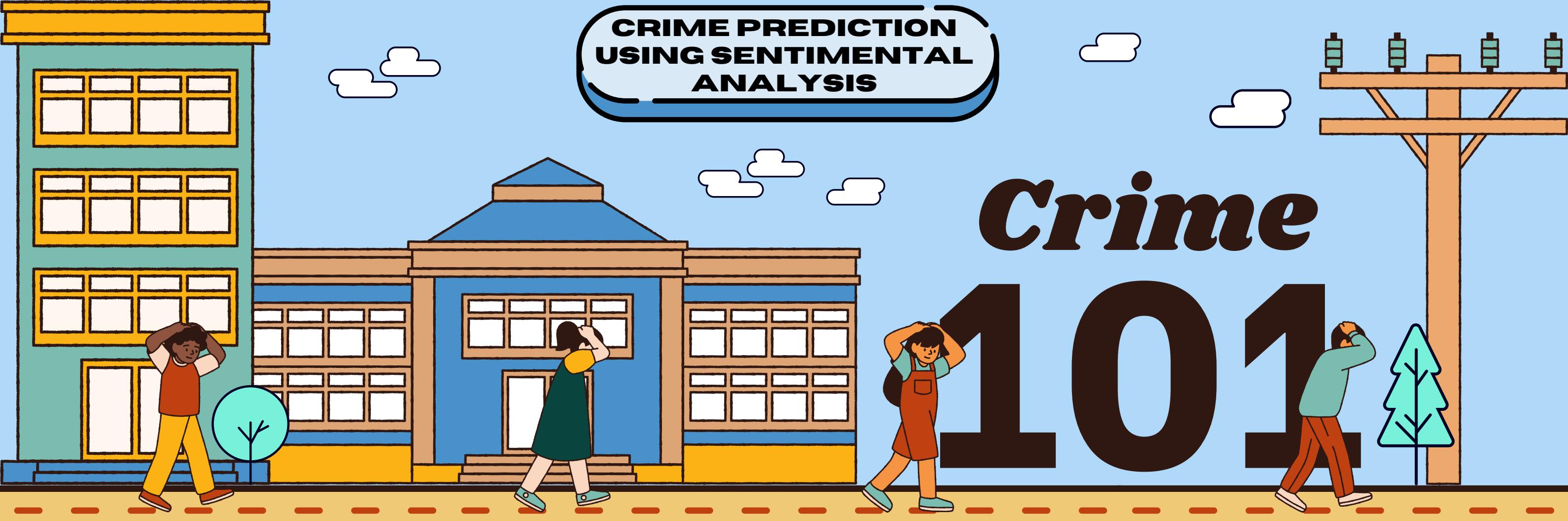


CRIME PREDICTION USING SENTIMENTAL ANALYSIS

Crime

101



IMPORTANCE OF CRIME PREDICTION

- Crime analysis helps identify high-risk areas and peak times for criminal activity, enabling law enforcement to allocate personnel and resources more efficiently.
- By analyzing real-time and historical data, crime analysis can uncover emerging patterns or shifts in criminal behavior, allowing for proactive intervention and prevention strategies.
- Provides actionable insights for policymakers and law enforcement to address root causes of crime, evaluate existing strategies, and implement targeted crime reduction initiatives.



CRIME RATES

12%

Violent Crimes happened in the U.S (2023 FBI Reports)

OUR PROJECT FOCUSES ON



HYBRID CRIME PREDICTION MODEL

- The project develops a dynamic model that integrates real-time sentiment analysis from social media platforms (e.g., Twitter, Reddit) with historical crime data.
- This hybrid approach enables the identification of emerging crime trends earlier than traditional models.

ADDRESS TRADITIONAL METHOD LIMITATIONS

- Traditional crime prediction models rely heavily on static historical data, often leading to biased results due to over-policing in specific areas.
- This project mitigates these biases by incorporating dynamic, real-time community sentiment.

LEVERAGING COMMUNITY SENTIMENT

- By analyzing social media posts for crime-related keywords and sentiment polarity, the project captures shifts in public sentiment.
- This serves as an early warning system for potential social unrest or emerging hotspots of criminal activity.

PROVIDING ACTIONABLE INSIGHTS

- The project delivers comprehensive visualizations, such as safety score heatmaps and comparative analyses, to assist law enforcement and policymakers in allocating resources, designing interventions, and addressing the root causes of crime effectively.

INNOVATIONS OF OUR PROJECT

- **Dynamic Integration of Sentiment Data:** Real-time social media analysis enables adaptive crime prediction and early detection of evolving trends.
- **Bias Mitigation:** By combining community sentiment with historical crime data, the model reduces over-policing feedback loops inherent in traditional approaches.
- **Temporal Adaptability:** Incorporating temporal features ensures predictions remain relevant and responsive to current social and crime dynamics.



FUTURE PROSPECTS



Integration of real-time monitoring into dashboards for live tracking of emerging crime trends.

Implementing advanced models, such as deep learning, will enhance prediction accuracy and scalability.



Incorporating socio-economic and demographic data will provide deeper insights into crime causes and improve model performance.