ABSTRACT

This project presents a comprehensive analysis of crime dynamics in India, integrating data from multiple sources and employing advanced analytical techniques to uncover intricate patterns and insights. Over the past decade, crimes have exhibited complex temporal and spatial variations, influenced by a myriad of socio-economic factors. Through exploratory data analysis (EDA), we identified long-term trends, seasonal patterns, and correlations between different types of crimes. Time-series decomposition techniques revealed underlying trends, while correlation and causation analysis elucidated the relationships between crime rates and socio-economic indicators such as unemployment, poverty, and education levels.

Spatial analysis techniques, including hotspot detection, were employed to identify crime hotspots and compare crime frequencies across different regions and time periods. Predictive modeling was utilized to forecast future crime rates based on historical data and socio-economic conditions, enabling proactive policy planning and resource allocation. Additionally, text analysis of crime reports provided insights into emerging crime trends and public perceptions towards law enforcement.

The depth of analysis facilitated a nuanced understanding of crime dynamics in India, offering actionable insights for policymakers and law enforcement agencies. By leveraging advanced analytical methods, this project aims to inform evidence-based strategies to address underlying socio-economic factors contributing to crime and enhance public safety nationwide.