Crime Data Analysis of India

1. Introduction

Project Title: Crime Data Analysis of India (2019-2021)

Objective: The objective of the project is to analyze a plethora of datasets associated with various crimes in India for the period of 2019-2021 and to underscore key trends, patterns, and insights associated with different crimes such as murder, kidnapping, crimes against women, and children.

2. Data Description

Datasets:

Crime Against Children (State-UT-wise, 2019-2021): This dataset represents data concerning crimes that have been reported by children of various states and union territories of India.

Crime Against Women (State-UT-wise, 2019-2021): Data on crimes reported against women in various states and union territories.

IPC Crimes (State-UT-wise, 2019-2021): Crimes under IPC reported in different states and union territories.

IPC Crimes (City-wise, 2019-2021): The same data as that at the state level, but for cities.

Kidnapping and Abduction (State-UT-wise, 2019-2021): Cases of kidnapping and abduction reported in different states.

Violent Crimes (State-UT-wise, 2021): Details of violent crimes such as murder and assault.

Murder Cases (State-UT-wise, 2019-2021): Information on murder cases reported in different states.

Victims of Murder Gender and Age Group-wise, 2021: Detailed description of the murder victims by gender and age group.

Total Complaints Received, 2019-2021: Information of total complaints received in different States and UTs.

Data Structure:

Every dataset includes columns for states, union territories, cities, or age groups and the respective statistics of crimes.

The datasets are designed in such a way that it should be possible to make comparisons across different years from 2019-2021.

3. Methodology

Tools Used: Python (Pandas, NumPy, Matplotlib), Excel

Approach:

Data Cleaning: Handling missing values, removing duplicates, and standardization of data formats.

Exploratory Data Analysis (EDA): Statistics, visualizations to identify trends and patterns.

Comparison: Crime statistics across different states, years, and crimes.

4. Analysis and Insights

Crime Trends Across India, 2019-21:

The overall crime rates have increased by X% from 2019 to 2021. There has been an observable steep upswing in certain categories of crime, such as kidnapping and murder.

Uttar Pradesh continued to top the list of crimes under many heads.

Crimes Against Women and Children:

Crimes against women have risen by Y% during 2019-21; the highest in cases has been reported by Maharashtra.

Crimes against children, especially in the age bracket below 18, occurred at a high rate in states like West Bengal and Uttar Pradesh.

Murder Cases and Victim Demographics (2021):

The state of Uttar Pradesh had recorded the highest number of reported murder cases in 2021.

Male victims, particularly those in the age bracket 30-45, were the worst affected demographic in 2021.

IPC Crimes Analysis:

A steep rise in IPC crimes was observed in metropolitan cities like Delhi and Mumbai.

But violent crimes like assaults and murder have been increasing in 2021.

Total Complaints Received:

The total complaints received increased by Z% from the year 2019 to 2021, and this percentage has huge differences across states.

5. Key Findings

Hotspots of Crime: States like Uttar Pradesh and Maharashtra are major hotspots for various crimes, including murder and crimes against women and children.

Rising Crime Rates: Overall, crime rates have increased from 2019 to 2021; most crimes have grown steeply in specific categories like violent crimes.

Demographic Vulnerability: Violent crimes like murder kill people maximally in the age group of 30-45 years in males.

Urban vs Rural Crime: Cities generally have a higher rate in crimes than rural areas on many accounts, including under IPC crimes.

6. Challenges and Limitations

Inconsistencies in Data: A few datasets had missing values or discrepancies that needed to be handled carefully.

Regional Bias: There could be regions that report crimes more accurately as compared to other regions, hence creating bias in analysis.

7. Conclusion

This analysis gives a bird's eye view of crime trends in India from 2019 to 2021. The findings bring out the necessity of targeted interventions in crime hotspots and on vulnerable demographics.

8. Future Work

Deep Analysis: It can be further done at the level of district-wise or month-wise data of crimes.

Predictive Modelling: Setting up machine learning models which can predict the trend of crime in the future with the available historical data.

9. References

The data is extracted from government records of crimes and other open source data sets.