



CRIME INCIDENT ANALYSIS

Presented By: Urfa Ilyas Bhattiwale

Date: 12-02-2026



Outline

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Introduction

The 2020 Individual Incident dataset provides detailed records of crimes across various states, including information on victims, offenses, and property losses.

Using tools like Excel, SQL, Python, and Power BI, the data was explored to identify trends, high-risk areas, and actionable insights.

Problem Statement

- The original dataset contained duplicates and missing values, making direct analysis unreliable.
- Data cleaning was performed in Python, removing duplicates and replacing nulls to ensure accuracy.
- The cleaned dataset was prepared for exploratory analysis and visualization using Excel, SQL, and Power BI.

Methodology

- Performed EDA and visualization using Jupyter Notebook via Anaconda Navigator.
- Used MS Excel for exploring data columns/rows and creating Excel-based dashboards.
- Built interactive dashboards using Power BI Desktop.
- Executed SQL queries on MySQL Workbench.

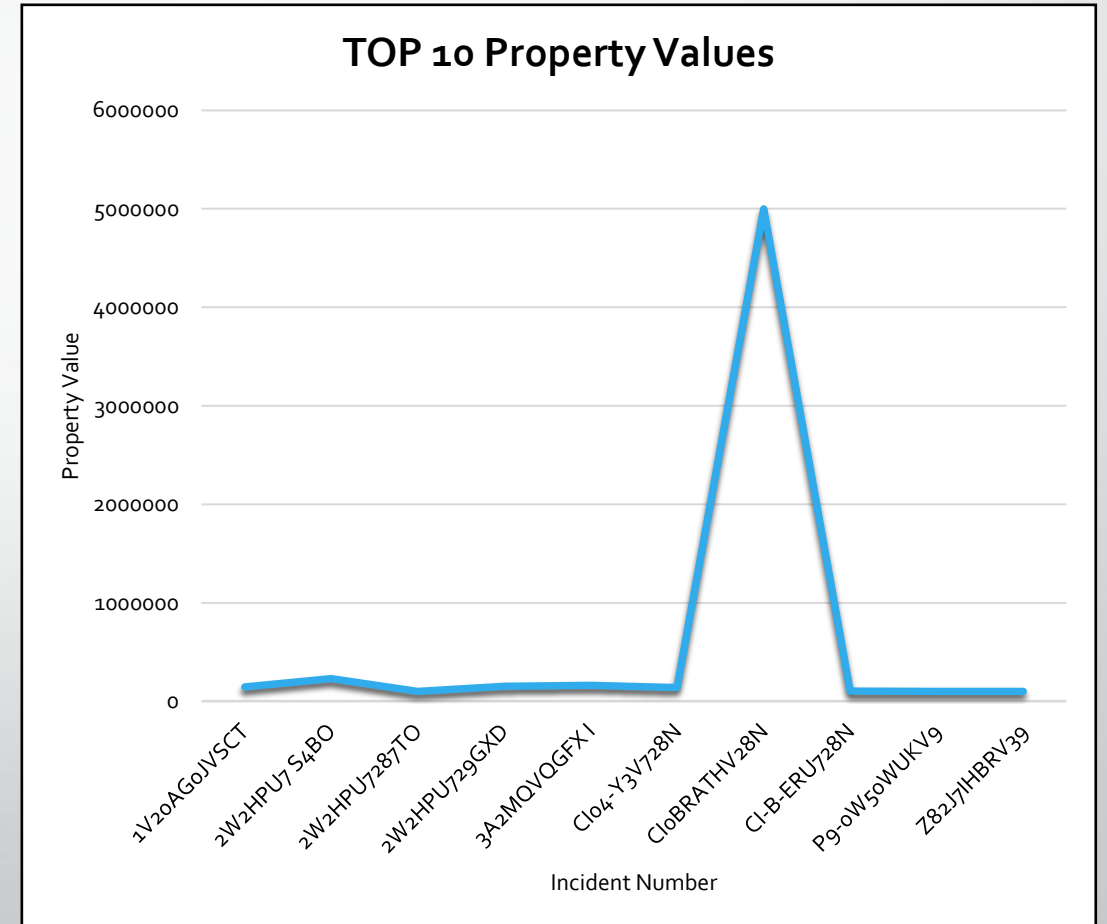


RESULTS

Property Values Evaluation

This chart shows the top 10 highest property loss incidents.

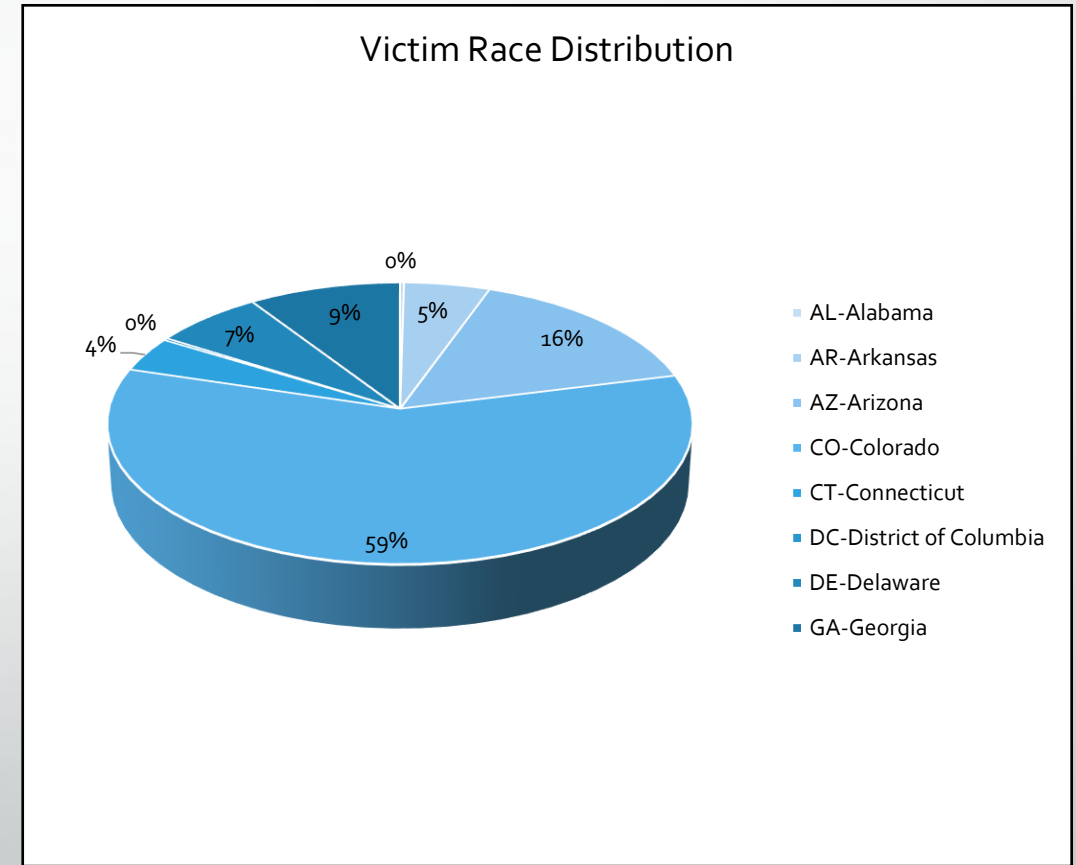
- Property damage is mainly driven by one major incident, while others have smaller financial impact.



Victim Race Distribution

This pie chart represents the percentage distribution of victims across different states in the dataset.

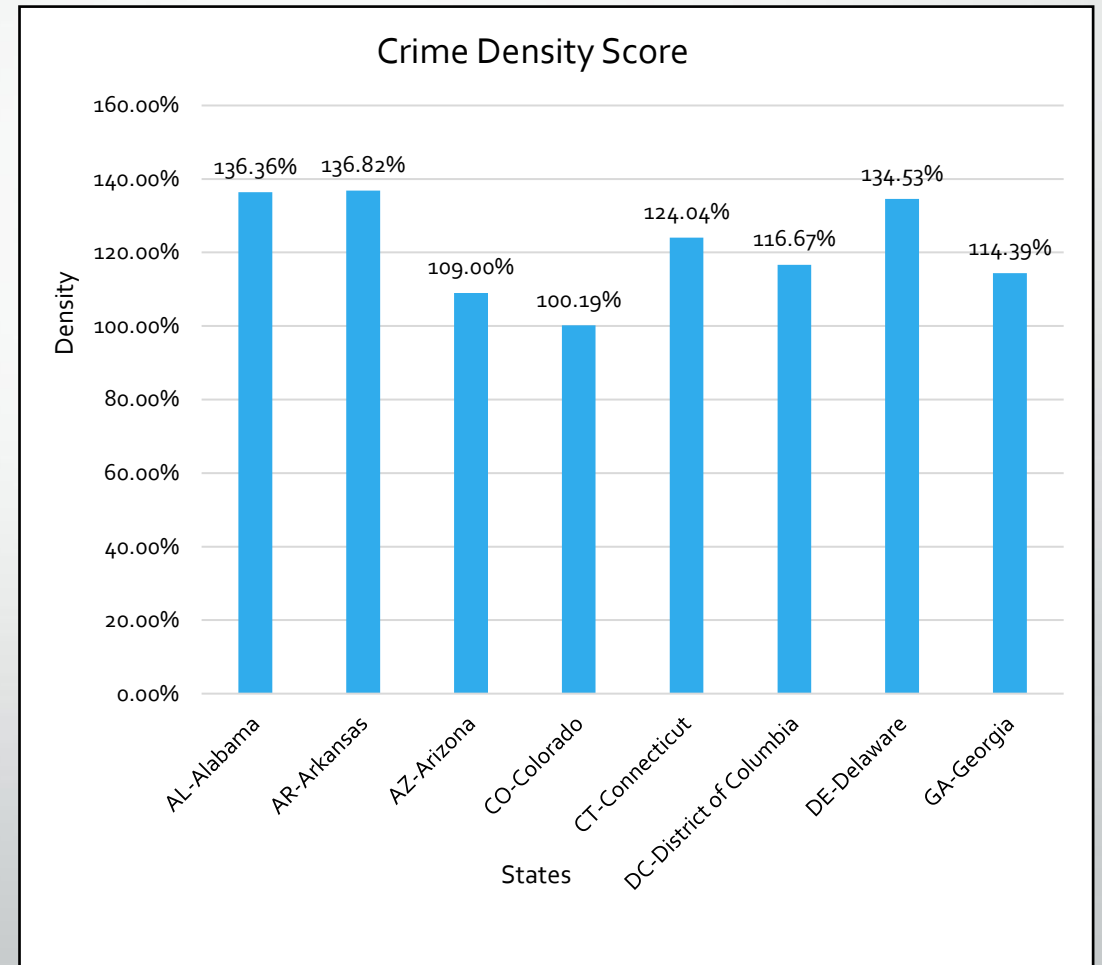
- Victim distribution is uneven, with certain states having more cases than others



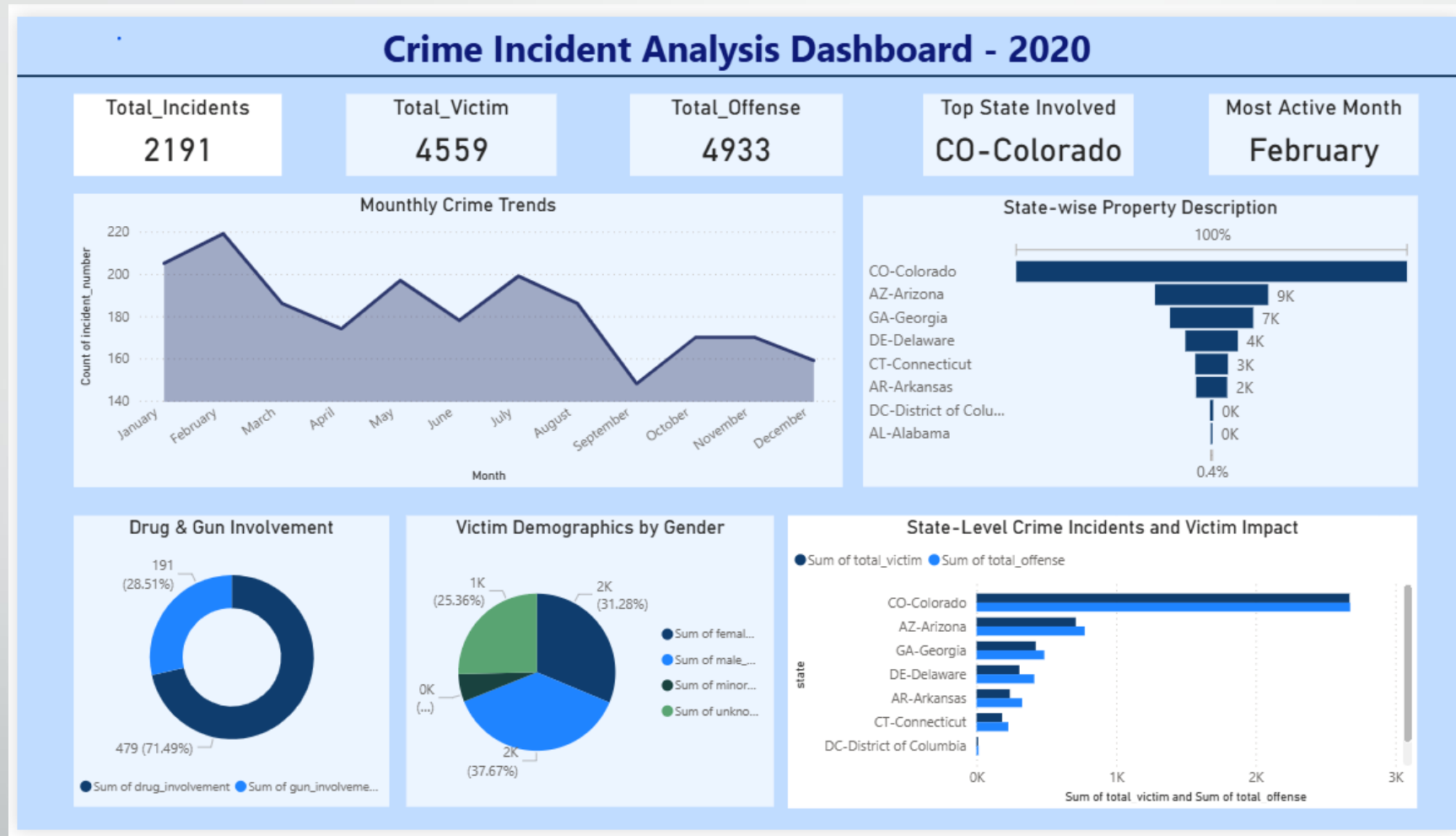
Crime Density Score

This chart compares crime density across different states.

- Crime levels differ across states, with some regions experiencing higher concentration.



Power BI Dashboard



Crime in 2020 was driven by drug involvement, concentrated in specific states, and marked by seasonal spikes in February.

Insight Summary

- **State Patterns:** Colorado has the highest number of incidents and victims, while Arkansas and Alabama show higher crime density, indicating concentrated activity.
- **Offense Patterns:** Drug-related crimes are the most common, followed by gun-related offenses, highlighting focus areas for law enforcement.
- **Victim Information:** Males are the largest group of victims (37.7%), and missing data in gender and race (~32%) shows gaps in reporting.
- **Property Impact:** A few very large property loss cases make total values appear higher; median property losses give a more accurate view of typical incidents.
- **Seasonal Trends:** February has the highest number of incidents, suggesting possible seasonal patterns in crime.



THANK YOU

Mail ID : urfabhattiwale.tech@gamil.com
GitHub: <https://github.com/urfa-bhattiwale>