Los Angeles Crime Data Analysis

Project Overview

This project explores patterns in crime data reported in Los Angeles. The goal is to analyze crime distribution by **time, location, and victim demographics** to identify trends and insights that could support urban safety strategies.

Key steps include:

- Performing exploratory data analysis (EDA).

- Visualizing crime patterns across hours, areas, and victim age groups.

- Extracting actionable insights from the findings.

Dataset

Source: Los Angeles Crime Data (subset used here).

Columns:

DATE OCC, TIME OCC: Date and time of occurrence.

AREA NAME: Police reporting area.

Crm Cd Desc: Description of crime.

Vict Age, Vict Sex: Demographics of victim.

LOCATION: Crime location.

Tools Used

- **Python**: Data cleaning & analysis.

- **Pandas**: Data manipulation.

- **Matplotlib / Seaborn**: Visualization.

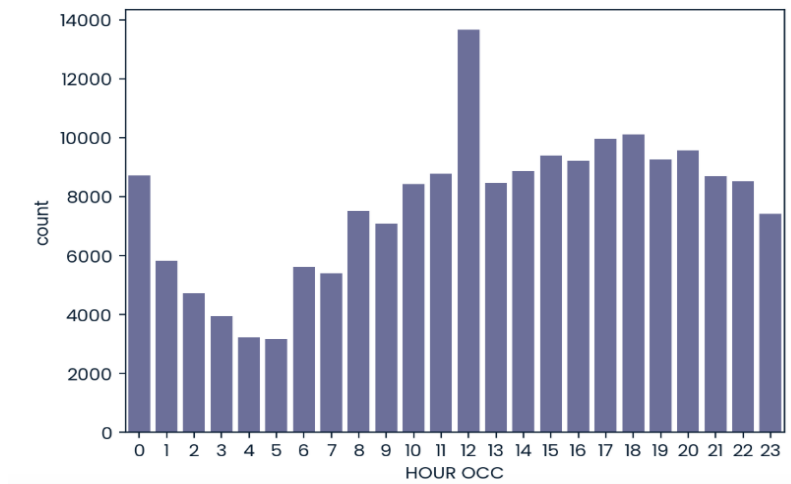- **Jupyter Notebook**: Interactive exploration.

Analysis & Visualizations

1. Crimes by Hour of the Day

A countplot of crimes by hour shows:

- Lowest activity: **3–6 AM**.

- Peak activity: **12 PM – 6 PM**.

Insight: Crimes are more likely during the afternoon and evening, potentially linked to higher foot traffic and activity.

2. Night-time Crime Hotspots

Night defined as **10 PM – 5 AM**.

- Grouping by AREA NAME shows that **Central** has the **highest number of night-time crimes**.

Insight: Central LA is a critical hotspot for late-night crime, useful for targeted law enforcement patrols.

3. Victim Age Distribution

Victims were grouped into age brackets:

- **25–34 years**: Highest victim group (123k+ cases).

- **35–44 years**: Second highest.

- Lower crime incidence among minors (0–17) and elderly (65+).

Insight: Young adults (25–44) are most at risk, possibly due to higher mobility and social activity.

Key Insights

1. **Time**: Crimes peak in the afternoon and evening, while night sees fewer but concentrated incidents in specific areas.

2. **Location**: Central LA is the largest hotspot for night-time crimes.

3. **Victims**: The majority of victims are in the **25–44 age group**.