PROJECT SYNOPSIS

DEPARTMENT	**ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**		
TITLE OF THE PROJECT	**US CRIME ANALYSIS DASHBOARD**		
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PROJECT TIMELINE	April 2025 to May 2025		
FIELD OF PROJECT	This project falls under the field of **Data Analytics and Business Intelligence**, with a focus on **Criminology and Public Safety**. It leverages Power BI to analyze and visualize U.S. crime data, helping uncover trends, patterns, and insights that can support decision-making in law enforcement and public policy.		
PROJECT INTRODUCTION	This Power BI project focuses on analyzing crime data across the United States to uncover patterns, trends, and hotspots. By visualizing key metrics such as crime types, locations, and timeframes, the project helps users gain insights into public safety issues. With interactive dashboards and maps, it provides an accessible way to explore complex data and support data-driven decision-making for law enforcement and policy planning.		
PROJECT PROBLEM STATEMENT AND CHALLENGES	**Problem Statement:** Despite the availability of extensive crime data in the United States, making sense of it can be difficult due to its volume, complexity, and lack of accessibility. The challenge lies in transforming raw data into meaningful insights that can help identify crime trends, high-risk areas, and the effectiveness of law enforcement efforts. This project aims to bridge that gap by using Power BI to analyze, visualize, and present crime data in a way that is intuitive and actionable. **Challenges:** 1. **Data Quality and Consistency:** Crime data may have missing, inconsistent, or outdated entries across states and cities.		

	2. **Data Integration:** Combining data from multiple sources (e.g., local agencies, FBI databases) can be complex. 3. **Granularity and Classification:** Crimes are reported at different levels of detail and categories, which can affect uniform analysis. 4. **Geospatial Visualization:** Mapping crime data accurately across regions requires clean geographic data and proper coordinates. 5. **Performance Optimization:** Handling large datasets in Power BI may lead to performance issues if not optimized properly.
OBJECTIVES OF THE PROJECT	The project aims to achieve the following goals: (i) **Identify Crime Trends Over Time:** Analyze historical crime data to detect patterns and fluctuations in crime rates across different years, months, and seasons. (ii) **Classify and Compare Crime Types:** Break down and compare various categories of crimes (e.g., theft, assault, burglary) to understand their frequency and distribution. (iii) **Highlight Geographic Hotspots:** Use geospatial visualizations to pinpoint high-crime areas at the state, city, or neighborhood level. (iv) **Enable Interactive Decision-Making Tools:** Develop dynamic dashboards that allow users to filter, explore, and interpret crime data for informed policy and safety planning.
PROPOSED SOLUTION	The proposed solution for the US Crime Analysis Power BI project involves developing an interactive dashboard that visualizes crime data across various states and cities to identify trends, patterns, and hotspots. By integrating data from sources like the FBI and local law enforcement agencies, the dashboard will provide insights into crime rates by type, location, and time period. Key performance indicators (KPIs), heatmaps, and drill-down capabilities will empower law enforcement, policymakers, and the public to make data-driven decisions for improving safety and allocating resources effectively.

SYSTEM DIAGRAM