JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA

Introduction to Big Data & Data Analysis

Project Based Learning

Topic: Global Terrorism Analysis

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GLOBAL TERRORISM ANALYSIS

Exploring Global Terrorism trends

MOTIVATION BEHIND

what inspired us?

- Terrorism's impact on societies is profound and long-lasting.
- Understanding patterns can aid in prevention, response, and policymaking.
- Historical data analysis helps identify trends and hotspots.

OBJECTIVES

our aim of the project

- Analyze terrorist activities over time: Global and regional trends.
- Identify factors linked to high-impact events: Types of attacks, target groups, weapons used.
- Explore data using machine learning to predict future incidents.

DATASET OVERVIEW

Dataset includes information on terrorist incidents from various sources.

KEY FEATURES:

Attack type

This feature categorizes the method of the attack, such as bombings, assassinations, hijackings, or armed assaults.

Location

Geographical identifiers such as the region, country, and sometimes even specific cities or localities.
By analyzing locations, we can pinpoint terrorism hot spots and study how terrorism varies across regions.

Weapon type

Classification of weapons used, including firearms, explosives, chemical/biological agents, and unconventional weapons.
Weapon type reveals the resources and technological capabilities of terrorist groups.

Casualties

Numerical data on the number of people injured or killed in each incident.
Casualty statistics provide a measure of the impact and severity of attacks.

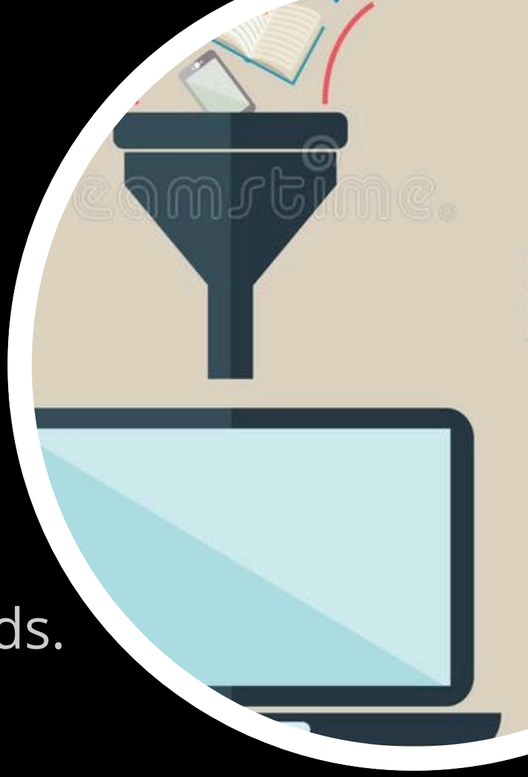
DATA PRE PROCESSING

- Essential for accurate analysis.
- Steps include: Handling missing values, encoding categorical features, normalizing data.
- Ensures clean, consistent data for analysis.

MACHINE LEARNING MODEL

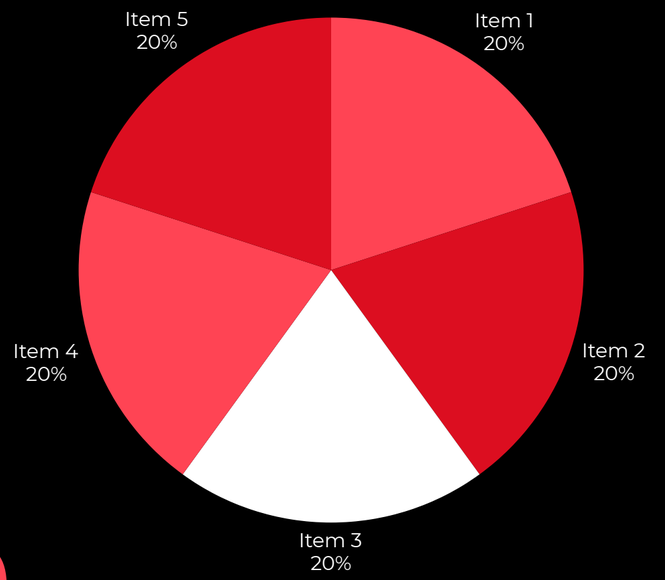
- Build models to analyze terrorism-related data.
- Train on past incidents to identify characteristics of high-impact events.
- Use algorithms like XGBoost for pattern identification.

DATA FILTERING

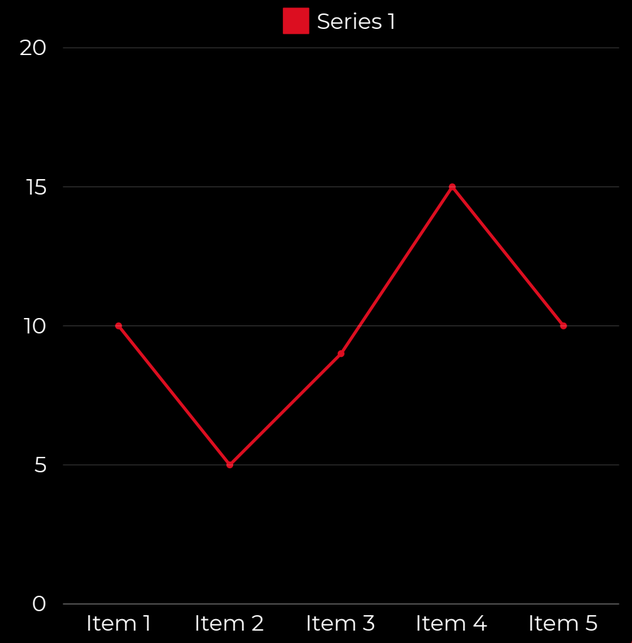


- Filter data based on regions, countries, and time periods.
- Focus on specific locations for clearer patterns.
- Enables detailed analysis, such as comparing attack types.

PLANNED ANALYSIS & VISUALIZATIONS



- Utilize various visualizations for insights.
- Line charts for attack frequency over time.
- Pie charts for attack type distribution.
- Maps for visualizing incident locations.



PROJECT ROADMAP

- Phase 1: Data preprocessing and preliminary analysis.
- Phase 2: Create visualizations and derive insights.
- Phase 3: Develop machine learning models and evaluate performance.
- Conclude with a final report of findings.


THANK YOU