Project Documentation

Project Title:

Analysis of Road Accidents in India (2017–2020)

Summer school IIT jammu

Under the guidance of :- Shubam gaur

Team Members:

S.No	Name	College
1.	Mohd owais	BGSBU Rajouri
2.	Lokesh saini	DAV Centenary College faridabad
3.	Javid iqbal	BGSBU Rajouri
4.	Imaan chandan	MIET Jammu

Objective of the Project:

The aim of this project is to analyze road accident data in India between 2017 and 2020 and extract meaningful insights to identify accident-prone regions, trends, and causes. This will help in visualizing accident patterns, evaluating state-wise statistics, and proposing datadriven suggestions for improvement.

Dataset Description:

Source: [Government of India – Road Accident Dataset]

Format: CSV

Duration: 2017 to 2020

Work done by team members:-

- **Mohd owais**
  Python (Pandas, Numpy, Seaborn):-
  Data Cleaning, Statistical Analysis, and Visualizations
- **Lokesh Saini**

  Microsoft Excel:- Pivot Tables, Charts & Basic Analytics

- **Iman Chandan**

  Power BI:- Interactive Dashboards and Reports

- **Javid iqbal**
  SQL :- Data Storage and Querying

Attributes:

Road Accidents per year

Persons Injured and Killed

Per lakh population metrics

Accidents per 10,000 vehicles/road km

State-wise breakdown

Tools & Technologies used:

Python (Pandas, Numpy, Seaborn):-

Data Cleaning, Statistical Analysis, and Visualizations

Power BI:-

Interactive Dashboards and Reports

Microsoft Excel:-

Pivot Tables, Charts & Basic Analytics

SQL   :-

Data Storage and Querying

Work:

1. Data Cleaning & Preprocessing (Python)

Removed null values, standardize column names

Handle inconsistent data formats.

2. Exploratory Data Analysis (EDA)

Identified top 5 most and least accident-prone states

Study trends over the years

Analyze injury-to-accident and death-to-accident ratios

3. Visualization & Reporting Visualize trends using:

Line charts, bar graphs, heatmaps (Python/Excel)

Interactive map & KPI cards (Power BI)

4. Database Operations (SQL) Design schema to store cleaned data **Query insights like:**

Year-wise totals

State-wise accident density

Submitted By:

Group name:- Vision5 – Road to Safety

Date: 14 July 2025 to 1 August 2025