



Supervised Learning Project | Data Analytics

A detailed data analysis and model for
Regulatory Affairs of Road Accident Data,

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PROBLEM STATEMENT

OBJECTIVE : Analyze road accident data to identify patterns, causes, and high-risk areas.

CHALLENGES ADDRESSED :

- Increasing road accidents in Indian cities.
- Need for actionable insights for regulatory bodies.

Identify patterns and causes of road accidents in Indian cities to provide actionable insights for reducing incidents and improving road safety policies.



TECHNOLOGY STACK USAGE

01 Jupyter Notebook for data analysis and step by step implementation

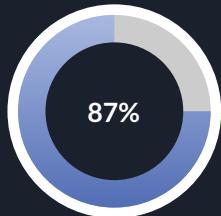
02 Python libraries for preprocessing and visualization.

03 Scikit-learn for clustering and pattern recognition.

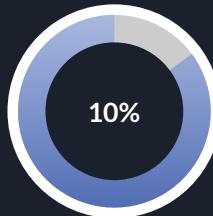
UTILIZATION :

Tools:

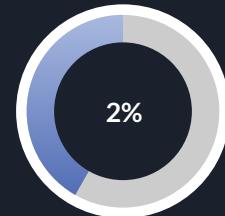
- Pandas and NumPy for data manipulation.
- Matplotlib and Seaborn for visualizations.
- Scikit-learn for machine learning tasks.



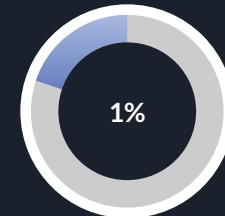
Python



Jupyter Notebook



Machine Learning



Deployment

Full Project Implementation

- **Steps:**
 1. Data Cleaning and Preprocessing
 2. Exploratory Data Analysis (EDA)
 3. Feature Engineering
 4. Insights Extraction and Visualization
 5. Recommendations for Policy Improvement





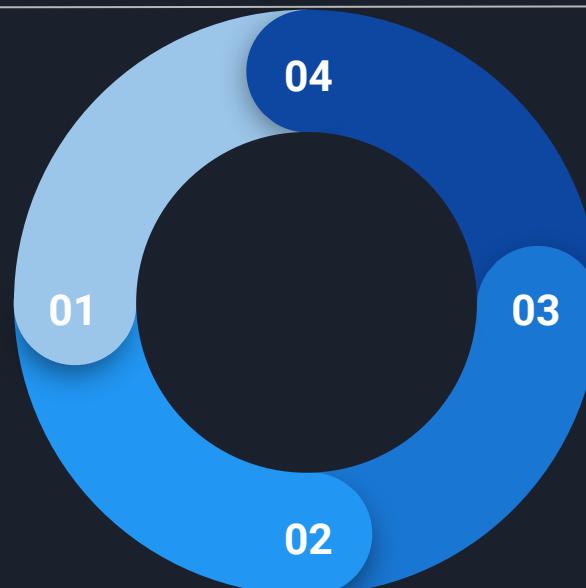
Workflow Diagram

Dataset Sourcing

Source the dataset and loading it into the system

Training Model

Training model using Machine Learning techniques based on observed data



Visualisation and Analysis

Plotting graphs and reading data for better understanding

Deployment

Testing and monitoring the model for performance.

Features and Requirements

Features:

- Identification of high-risk cities and zones.
- Accident cause categorization.
- Interactive visualizations for insights.

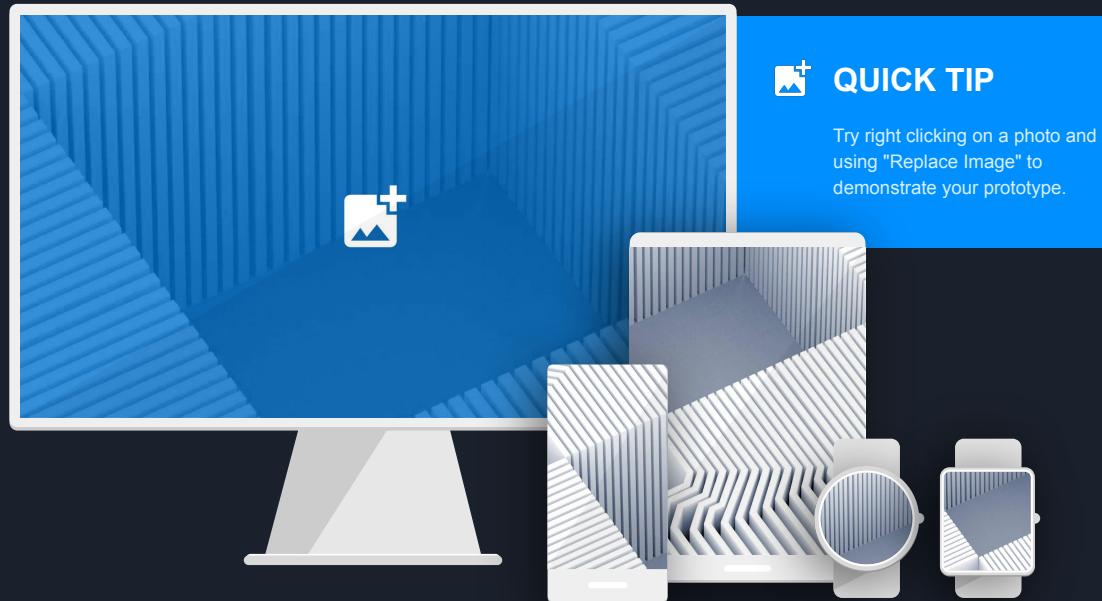
Requirements:

- Python 3.x
- Required libraries (Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn).

Deployment Platform:

Hosting on Render for public access.

- **Monitoring:**
 - a. Real-time updates on accident trends through periodic data analysis.





Closing Statements & Credits

Thank you for your time and attention! This project aims to make a positive impact by leveraging data science to enhance road safety and inform policy decisions.

- **Project Repository:** [GitHub - Regulatory Affairs of Road Accident](#)
- **Dataset Source:** Kaggle
- **Developed by:** Aradhya
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