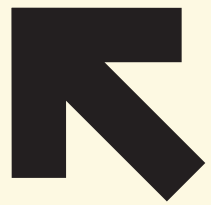




**Team 119**



# **U.S. Car Accidents Factors Analysis**

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# Agenda

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## Motivation & Problem Definition

- **Engineering and Design Improvements: Analysis accident patterns and understanding how difference factors contribute to crashes allows for the development**
- **Safety improvements: Understanding the causes, patterns, and consequences of car accidents helps identify areas where safety measures can be improved.**



A decorative graphic featuring a green line that starts from the left, curves down, and then continues horizontally. A blue line starts from the bottom, curves up, and then continues horizontally. A red line starts from the top right and curves down. An orange circle is positioned on the left side of the green line. The text "Project Details" is centered in the middle of the image.

# Project Details





## **Project Review**

- **Data Collection and Analysis: Gathering information from 2016 to 2023, such as weather condition, location, and road design can provide valuable data for analysis**
- **Big Data and Machine Learning: Identify patterns, correlations, and risk factors that may not be readily apparent through traditional analysis methods**





## **Project Approach & Innovation**

- **Public Awareness and Education: Raises awareness about the risks and consequences of unsafe driving**
  - **Helps educate drivers, passengers, and pedestrians about the importance of road design, weather condition impacts on traffic**
- **Accident Reconstruction: Helps investigators understand how and why accidents occurred**
  - **Reconstruct the sequence of events leading to accidents**





# Impact Assessment

- **Traffic Flow and Efficiency:** Improve traffic flow and reduce congestion
- **Accessibility and Mobility:** Impacts on accessibility and mobility for different modes of transportation
- **Environmental Considerations:** Air, water quality, noise pollution, and habitat fragmentation
- **Future Planning and Adaptation:** Impacts on neighbourhoods, land use patterns, and community cohesion
- **Economic Analysis:** Assessment of costs associated with construction, maintenance, and operation of road infrastructure





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## Project Logistic

### COSTS

- **None. Publicly available sources**

### RISKS

- **Data without granularity which need to research more information**
- **Underlying correlations within features**
- **Unexpected outcomes as assuming the largest correlation with car accidents is road design**

### PAYOFFS

- **Lower rate of car accidents or fatalities**
- **Higher coverage of road users' awareness**







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# Project Plan

## Planning

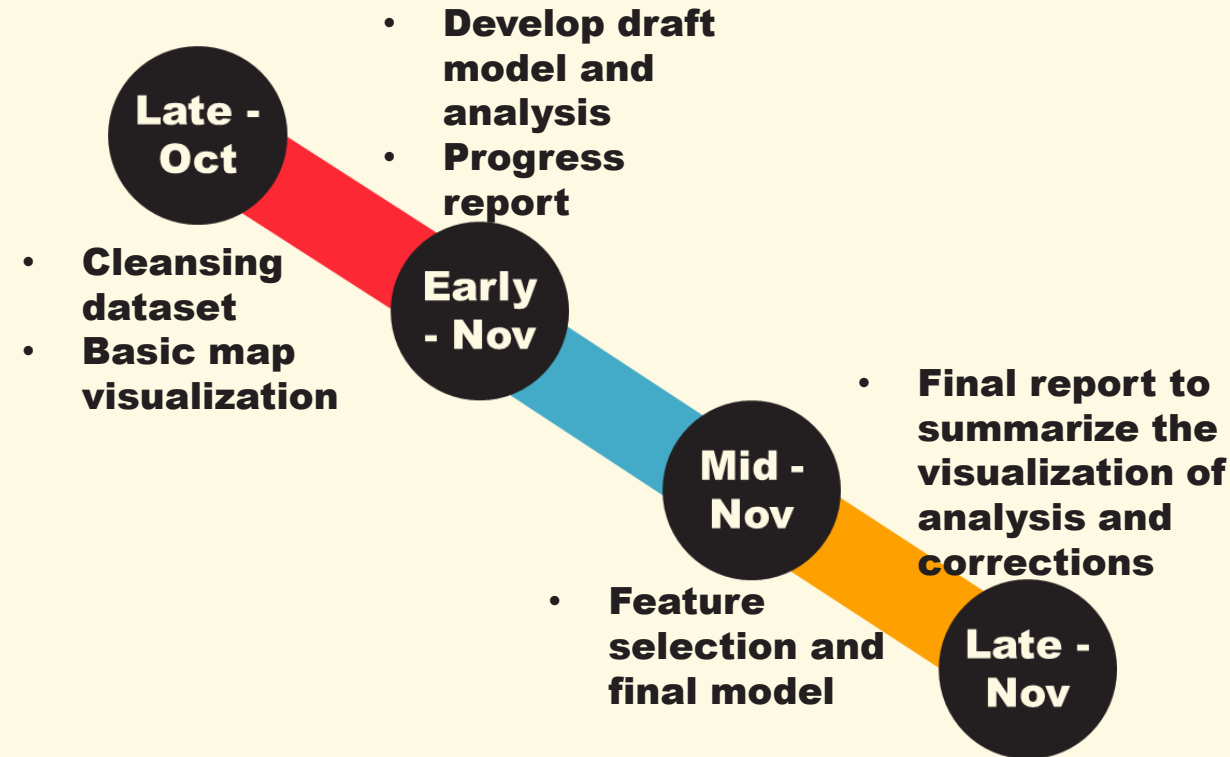
Cleansing dataset and developing correlations

## Design

Data Visualization and analysis the correlation of factors

## Tools

Python, R, Power BI



The image features a minimalist design on a light cream background. On the left, a thick orange line forms a U-shape. A thick red line enters from the left, crosses the orange line, and then curves upwards and to the right. A small black dot is located at the intersection of the red and orange lines. On the right side, another thick red line curves downwards and to the left, ending near a large green circle. A second black dot is positioned on the red line just above the green circle.

**Thank  
you**