

Exploratory Data Analysis (EDA) - Car Prices

1. Introduction

This analysis explores car prices in Nigeria, examining various factors like fuel type, mileage, condition, and manufacture year to understand price trends.

2. Data Loading & Preprocessing

- Load the dataset using Pandas.
- Display the first few rows to understand the structure.
- Check for missing values and handle them appropriately.
- Convert data types (e.g., convert year of manufacture to integer).
- Remove duplicate entries if any.

3. Summary Statistics

- Display basic statistics:
 - Average, median, and mode of car prices.
 - Most common car brands and models.
 - Distribution of mileage and engine size.

4. Data Visualization

- Price Distribution (Histogram)
 - Show the distribution of car prices to see the most common price range.
- Top 10 Most Common Cars (Bar Plot)
 - Identify the most frequently sold car brands.
- Price by Fuel Type (Bar Plot)
 - Compare the average price of cars using different fuel types (Petrol, Diesel, etc.).
- Price vs. Mileage (Scatter Plot)
 - Analyze how mileage affects car pricing.
- Car Condition Distribution (Bar Plot)

- Visualize the proportion of brand new vs. foreign used vs. Nigerian used cars.
- Price by Gear Type (Box Plot)
 - Compare how automatic, manual, and CVT gear types influence price.
- Most Common Car Colors (Bar Plot)
 - Find out which car colors are most popular.

5. Insights & Observations

- What trends do we see in car pricing?
- How do factors like mileage, fuel type, and condition influence price?