Cars Market Analysis Using Python

Status `Completed` ▾

Timing `Jul 7, 2025 12:00 PM` to `Jul 7, 2025 5:00 PM`

Owners `NIKHILESH BHANDARI`

Overview:

This project explores a dataset containing information about used cars, such as their price, mileage, engine capacity, fuel type, transmission, owner history, and more. The goal is to understand the factors that influence car prices and customer preferences in the used car market.

Objective:

- To analyze the relationship between different features (like fuel type, mileage, brand, power) and car price.

- To identify patterns that help in making better pricing and marketing decisions.

- To uncover useful trends for both car buyers and sellers.

Key Insights:

1. **Fuel Type Preference**: Petrol cars are the most listed, followed by diesel. Electric and CNG have minimal share.

2. **Transmission Trend**: Manual cars dominate the listings, but automatic cars tend to have higher prices.

3. **Owner Impact**: First-owner cars generally have higher prices compared to second or third-owner cars.

4. **Year vs Price**: As expected, newer cars have higher average prices. There is a gradual decline in price with age.

5. **Brand Popularity**: Brands like Maruti, Hyundai, and Honda are most common in the dataset.

6. **Mileage vs Price**: No strong correlation, but very low or very high mileage tends to affect pricing.

7. **Power & Engine vs Price**: Cars with higher engine capacity and power usually have higher price points.

Visualizations Used:

- Histogram: Price distribution

- Countplot: Fuel Type, Owner, Transmission

- Pie Chart: Manual vs Automatic cars

- Boxplot: Price vs Owner type

- Barplot: Top 10 brands

- Line Plot: Year vs Average Price

- Scatter Plot: Power vs Price

- Heatmap: Correlation between numeric features

Data Cleaning Performed:

- Handled missing values and inconsistent formats (e.g., time parsing).

- Removed any duplicate or null rows.

.

Business Recommendations:

- **Focus marketing** on petrol and manual cars, as they dominate the listings.

- **Highlight first-owner listings** in promotions—they fetch better resale value.

- **Upsell automatic variants** to customers seeking comfort and convenience.

- **Target newer models** for customers with flexible budgets—they offer better long-term value.

- **Use data** to dynamically price cars based on power, engine, and ownership history.