

---

---

# Used Cars Price Prediction

Stella Sim

---

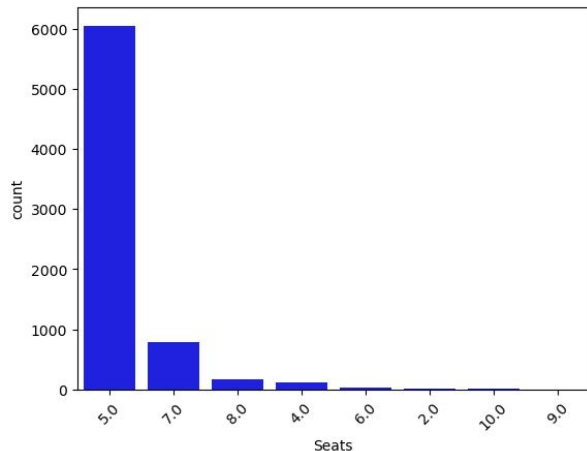
# Problem Summary

- Cars4U aims to fill the huge demand in the used car market
- The used car market is dynamic and pricing can be highly variable
- Accurate price prediction helps dealerships, buyers, and sellers set fair and profitable market prices

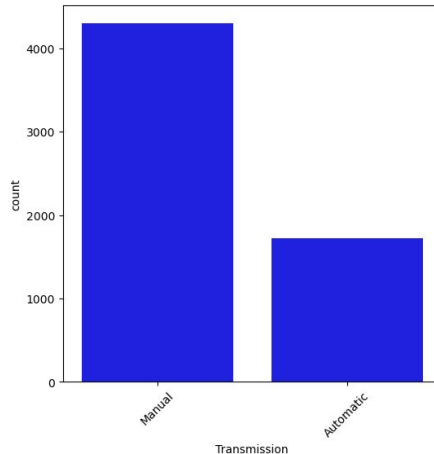
# Objective

- Develop a machine learning model to predict the price of used cars
- Help Cars4U and consumers make informed pricing decisions

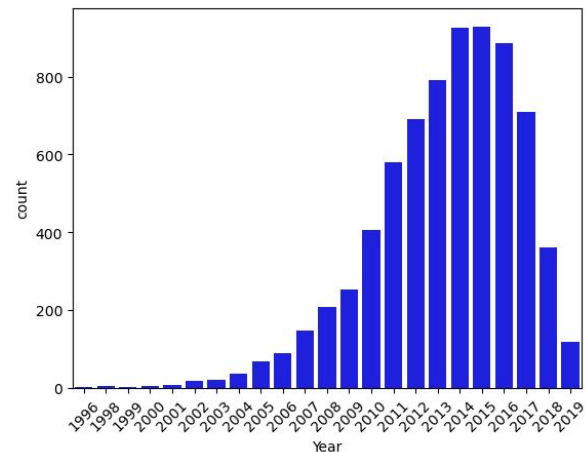
# Initial Key Findings



84% of cars have 5 seats

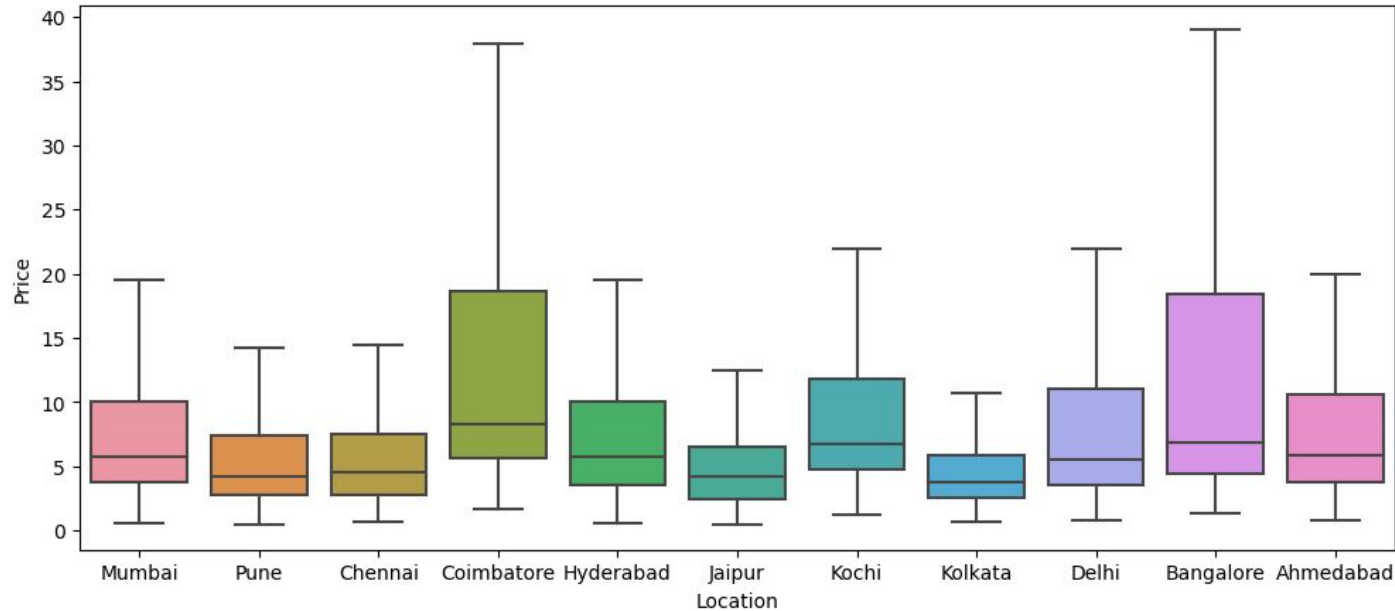


Cars with manual transmission make up 72% of the data



Cars from 2011-2017 make up 70% of the data

# Initial Key Findings



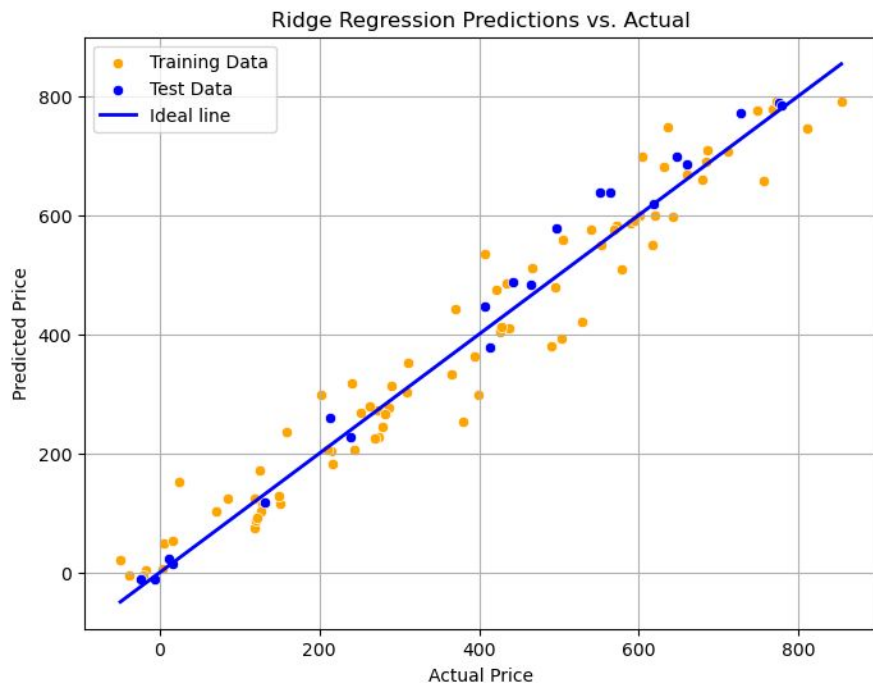
Coimbatore and Bangalore  
have the highest pricing

# Proposed Model Solution

## Ridge Regression Model

- Able to handle multicollinearity while improving model generalization
- Reduces overfitting, making it more stable compared to standard linear regression
- Improves Model stability

# Final Model Solution



- Ridge Regression performed the best overall with the lowest RMSE and least negative  $R^2$ .
- The visualization on the left indicates that the model is capturing used car prices well

# Proposed Business Solution

- Invest in creating an app or online form using the final prediction model to help sellers and dealers set prices on used cars
- Gather more data with a focus on cars that have 5 seats, Manual transmission, are from 2011-2017, and from more expensive locations like Coimbatore and Bangalore
  - Add more variables, like car color, accident history, condition
  - Via Web scraping or Customer/Dealership intake forms