Car Selling Price Prediction using Machine Learning

# Introduction:

In today’s data-driven world, predicting car prices is crucial for buyers, sellers, and dealerships to make informed decisions. Car selling price prediction utilizes machine learning models to estimate the price of a used car based on several factors, including make, model, year, mileage, and condition. This system helps users get an accurate price range and assists sellers in pricing their cars competitively.  
  
The ability to predict car prices accurately can lead to more efficient transactions in the automotive market and can also be used by car dealers to manage their inventory pricing strategy.

# Problem:

One of the challenges in the used car market is determining the right price for a car. Sellers may struggle to find the optimal price point, while buyers may face difficulty in understanding whether a car is priced fairly. Traditional methods of pricing can be subjective, and there are many factors that influence the price of a car, including brand, model, age, mileage, and condition. The lack of accurate price prediction models can lead to unsatisfactory transactions for both buyers and sellers.

# Goals:

This project aims to develop a car selling price prediction system using machine learning algorithms to accurately predict the price of a used car based on its attributes. The specific goals include:  
- Accurate Price Prediction: Build a machine learning model that predicts the fair market value of a used car.  
- User-Friendly Experience: Provide a tool for sellers and buyers to obtain reliable price estimates based on car features.  
- Analysis of Market Trends: Analyze the impact of various car attributes (brand, year, mileage, etc.) on the selling price.

# Related Work:

There have been various studies and models built to predict used car prices using different machine learning algorithms. For example, (Lee et al., 2019) proposed a model that combined decision trees and regression methods to predict car prices based on car specifications. Similarly, (Nguyen, 2020) used support vector machines (SVM) to estimate used car prices by considering a variety of attributes such as age, mileage, and location. This project will focus on leveraging algorithms like Linear Regression, Random Forest, and K-Nearest Neighbors (KNN) to predict car prices with greater accuracy by considering a wide range of factors that affect the price.

# Team Members:

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