Car Price Prediction

Abstract

Car price prediction helps estimate the cost of a car based on various features like engine size, horsepower, mileage, and body type. This project uses machine learning and a web interface to predict car prices effectively.

Introduction

Pricing a used car manually is often inconsistent and inaccurate. Using machine learning, we can provide data-driven, reliable price predictions based on historical car data.

Existing System

Most existing systems rely on human experience, dealer inputs, or basic online calculators which do not use machine learning.

Existing System Disadvantages

- Human error and subjectivity

- Lack of data-driven insights

- Not scalable

- No real-time customization

Proposed System

We propose a system using Linear Regression on a historical dataset with a front-end built using Streamlit. Users input car features, and the model predicts the price.

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Proposed System Advantages

- Accurate predictions

- Easy-to-use web interface

- Scalable solution

- Fast and reliable output

System Modules

- Data Preprocessing

- Model Training and Saving

- Streamlit Web Interface

- Prediction Engine

Technologies Used

- Python

- Pandas, Scikit-learn, Joblib

- Streamlit

- JSON for metadata

Conclusion

The Car Price Prediction project successfully demonstrates how machine learning can improve price estimation, enhancing transparency for buyers and sellers.

Future Scope

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- Integration with real-time market APIs

- Support for image-based car identification

- Price adjustment for depreciation and insurance history

Commands to Run the Project

1. Install dependencies: pip install -r requirements.txt

2. Train model: python model.py

3. Launch web app: streamlit run app.py