AutoValuator : Car Price Prediction Model

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Abstract

AutoValuator is a car price prediction model that uses machine learning to estimate the fair value of used cars. It considers features like brand, year, fuel type, kilometers driven, and ownership. Trained on real car data, the model helps users get accurate price suggestions. The project aims to assist buyers and sellers in making smart, data-driven decisions with ease. The primary aim of this project is to assist buyers and sellers in making informed decisions, avoiding overpricing or underpricing.

Technology Used

This project uses **Python** for building the machine learning model and backend, with **Flask** to connect the model to the user interface. Libraries like **Scikit-learn**, **Pandas**, and **NumPy** help in training and processing data, while **Matplotlib** and **Seaborn** are used for data visualization. The frontend is created with **React** and **CSS**, and development is done using **Jupyter Notebook** and **VS Code**.

Features

The key features include:

- Form-Based Car Data Entry
- ML-Based Price Prediction
- Instant Report Generation
- Data-Driven Decision Support
- Simple & User-Friendly Interface

Results

The AutoValuator model predicts used car prices with high accuracy, helping users make informed buying and selling decisions.

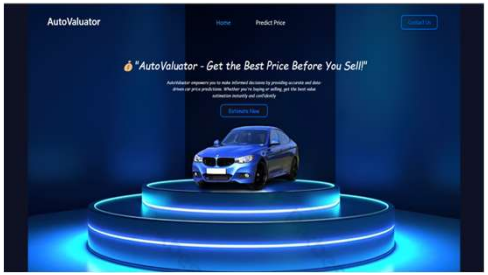

Figure 1: UI

Figure 2: Output of predicted car price

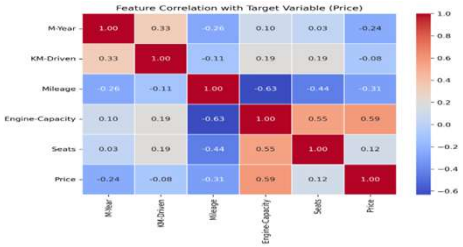

Figure 3: Feature Correlation

Future Scope

- Integrate more features like car condition, accident history, and location for improved price accuracy..
- Develop a mobile app for easier access and on-the-go price predictions.
- Implement real-time price updates using live market data and user feedback

Methodology

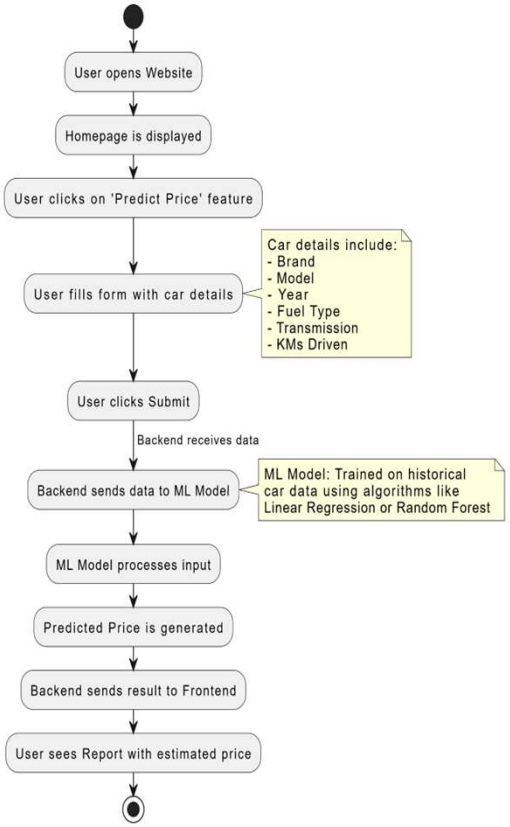

Figure 4: Flowchart

Conclusions

AutoValuator provides a fast, reliable, and data-driven solution to predict used car prices accurately. By leveraging machine learning, it helps buyers and sellers make informed decisions, promoting transparency in the car market.

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References

1) Gegic, E., Isakovic, B., Keco, D., Masetic, Z., & Kevric, J. (2019). Car price prediction using machine learning techniques. *TEM Journal*, *8*(1), 113.

2) Viswanatha, V., Ramachandra, A. C., Vachan, H. V., & Sourav, S. S. (2023, October). Predicting the price of used cars using machine learning. In *2023 International Conference on Evolutionary Algorithms and Soft Computing Techniques (EASCT)* (pp. 1-6). IEEE.

3) Noor, K., & Jan, S. (2017). Vehicle price prediction system using machine learning techniques. *International Journal of Computer Applications*, *167*(9), 27-31.

4) Das Adhikary, D. R., Sahu, R., & Pragyna Panda, S. (2022). Prediction of used car prices using machine learning. In *Biologically Inspired Techniques in Many Criteria Decision Making: Proceedings of BITMDM 2021* (pp. 131-140). Singapore: Springer Nature Singapore.

5) Venkatasubbu, P., & Ganesh, M. (2019). Used cars price prediction using supervised learning techniques. *Int. J. Eng. Adv. Technol.(IJEAT)*, *9*(1S3).