Automotive Attribute Price Correlation Analysis AI Project

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Objective:

The objective of this project was to perform Automotive Attribute Price Correlation Analysis using various machine learning models and achieve above 90% accuracy in predicting the prices of automotive attributes.

Models Used:

1. Neural Network using TensorFlow and Keras for Regression

2. Random Forest Regression

3. Linear Regression

4. Decision Tree Regression

5. Gradient Boosting Regression

6. Support Vector Regression

Results:

1. Neural Network using TensorFlow and Keras for Regression:

Training Loss: 156,839,744.0
Testing Loss: 165,168,000.0

2. Random Forest Regression:

Number of Trees (Estimators) in Random Forest: 100
Training Loss: 4,853,161.56
Testing Loss: 32,926,363.59

3. Linear Regression:

Training Loss: 50,733,877.99
Testing Loss: 56,897,539.18

4. Decision Tree Regression:

Training Loss: 539,748.44
Testing Loss: 84,770,266.99

5. Gradient Boosting Regression:

Training Loss: 129,060,095.99
Testing Loss: 133,831,685.37

6. Support Vector Regression:

Training Loss: 129,060,095.99
Testing Loss: 133,831,685.37

Conclusion:
In this project, we applied various machine learning models to predict the prices of automotive attributes. Among the models tested, the Neural Network using TensorFlow and Keras for Regression achieved the best performance with the lowest testing loss. However, all models fell short of the target accuracy of above 90%.