Overview

The goal of this project is to build a machine learning model that can predict the prices of cars based on various features such as make, model, mileage, year, and more. The notebook covers:

- Data cleaning and exploration
- Feature engineering
- Model building and tuning
- Model evaluation

Installation

To run the notebook and reproduce the results, you will need to install the following dependencies:

- Python 3.x
- Jupyter Notebook
- pandas
- numpy
- scikit-learn
- matplotlib
- seaborn

Dataset

The dataset used in this project contains various features of cars, such as:

- `Make`: The manufacturer of the car.
- `Model`: The model of the car.
- `Year`: The year the car was manufactured.
- `Mileage`: The total distance the car has traveled.
- `Engine Size`: The size of the car's engine.
- `Fuel Type`: The type of fuel the car uses.
- `Price`: The target variable representing the car's price.

Modeling

The notebook demonstrates several steps in the machine learning pipeline:

1. **Data Preprocessing**: Cleaning and transforming the dataset for modeling.
2. **Model Selection**: Trying different machine learning algorithms (e.g., Linear Regression, Decision Trees, Random Forest).
3. **Model Training**: Training the model using the training data.

4. **Model Evaluation**: Evaluating the model's performance using metrics like Mean Absolute Error (MAE) and R-squared.

Results

The best-performing model in this notebook is [Model Name] with the following metrics:

- **Mean Absolute Error (MAE)**: X
- **R-squared Score**: Y

Contributing

Contributions are welcome! Feel free to open an issue or submit a pull request if you would like to improve the project.