AI & ML Internship - Task 3: Linear Regression

Objective

Implement and understand simple and multiple linear regression using the Boston Housing dataset.

Dataset Used

- BostonHousing.csv
- Source: https://www.kaggle.com/datasets/prasadperera/the-boston-housing-dataset or GitHub mirror

Steps Performed

1. Loaded and explored the dataset (shape, nulls, summary).
2. Selected 'medv' (Median value of owner-occupied homes) as the target variable.
3. Used all other columns as features for multiple linear regression.
4. Split the data into training and testing sets.
5. Trained a Linear Regression model using scikit-learn.
6. Made predictions on the test set.
7. Evaluated the model using MAE, MSE, and R^2 Score.
8. Visualized actual vs predicted prices using a scatter plot.
9. Displayed model coefficients to interpret feature importance.

Tools & Libraries Used

- Python
- Pandas
- Matplotlib
- scikit-learn

Files Included

- Task3_Linear_Regression.ipynb

- BostonHousing.csv

- README.md (this document)

Status

Task Completed and Submitted.