Training Report – Day 24 & Day 25

Dates: 24–25 July 2025
Topic: Project Discussion & Problem Solving – *House Pricing Prediction*

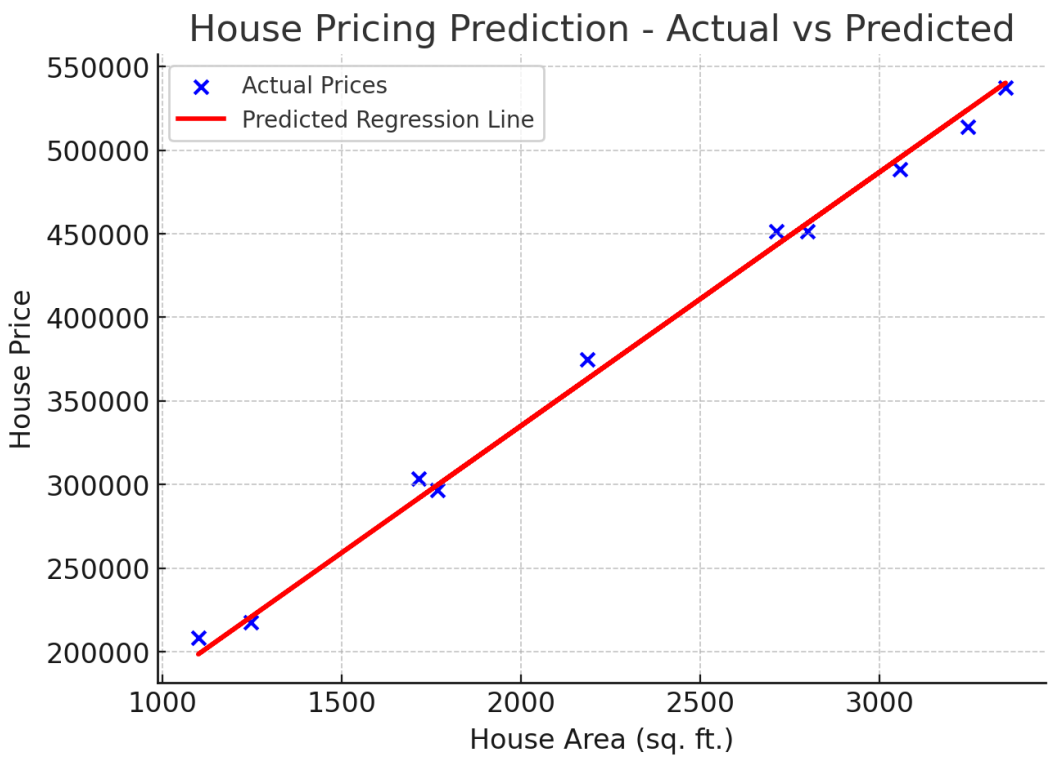
Overview

The last two sessions were dedicated to the **project work on House Pricing Prediction**. Instead of learning new algorithms, the focus was on **practical application of machine learning concepts** studied earlier (Linear Regression, model evaluation, visualization).

Key Points Discussed

1. **Project Goal**
    - Build a model that predicts house prices based on features such as area, location, number of rooms, and amenities.
2. **Steps Reviewed**
    - Data collection and cleaning for house pricing dataset.
    - Feature selection and scaling.
    - Applying **Linear Regression** as the baseline model.
    - Discussed evaluation metrics like **R² score, MAE, MSE, RMSE**.
    - Visualizing results (Actual vs Predicted prices).
3. **Problem Solving**
    - Handling missing or inconsistent data.
    - Feature engineering for categorical variables (like location).
    - Improving model accuracy by tuning parameters.

Visualization: Actual vs Predicted Prices



- **Blue Dots** → Actual house prices.
- **Red Line** → Predicted regression line.
- Points close to the line indicate good predictions, while large gaps show prediction errors.

Learning Outcome

- Understood how to connect theory (algorithms) with practical implementation.
- Learned to handle **real-world dataset challenges** such as missing values.
- Gained confidence in approaching ML projects systematically.
- Recognized the importance of **evaluation metrics** in comparing model performance.