

HOUSE PRICE PREDICTION

USING ML

HOUSE PRICE PREDICTION

CONTENT

01

Introduction

02

Objective

03

Dataset Overview

04

Data Cleaning Process

05

Model Testing & Accuracy Check

06

Data Splitting & Model Training

07

Error Metrics

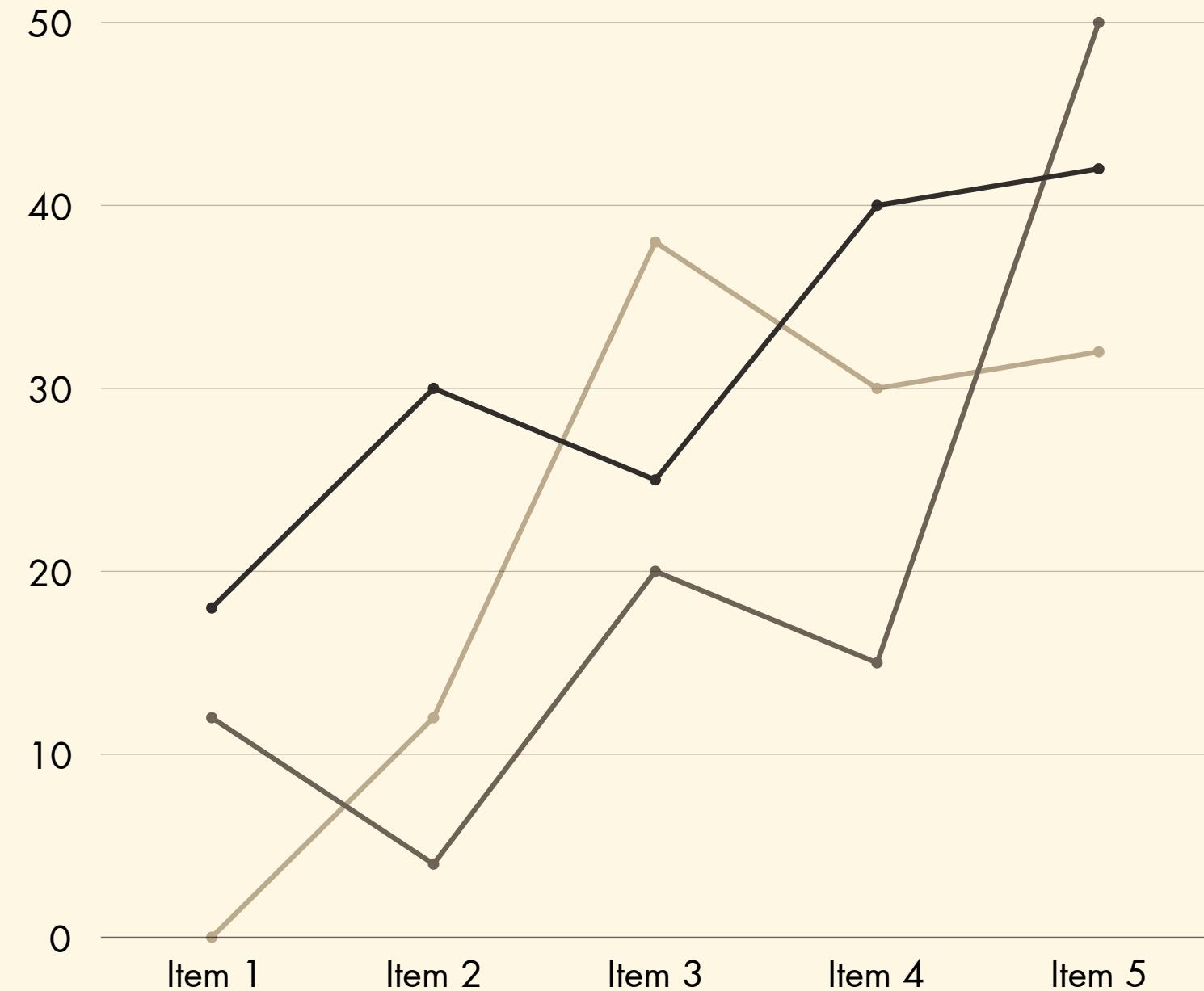
08

Results & Conclusion

INTRODUCTION



- In Problem: Estimating the right price of a house is challenging due to numerous factors—location, size, number of rooms, neighborhood demographics, and more.
- Solution: Using Machine Learning, we can analyze these factors to make accurate price predictions.
- Objective: Develop a model that predicts house prices based on inputs like location, square footage, and house features.



Benefit: This helps buyers and sellers make informed decisions, saving time and ensuring fair pricing in the real estate market.

OBJECTIVE:

GOAL: To Predict house prices based on various features.

KEY INPUTS: Location, Square Feet, BHK, Avg. Area Income, Avg. Area House Age.

EXPECTED OUTPUT: Accurate house price prediction.



DATASET OVERVIEW:

EXPLANATION:

This dataset contains 7 columns:

- Avg. Area Income: Average income of residents in the area
- Avg. Area House Age: Average age of houses in the area
- Avg. Area Number of Rooms: Average number of rooms per house
- Avg. Area Number of Bedrooms: Average number of bedrooms per house
- Area Population: Population of the area
- Price: Target variable, the price of the house
- Address: Location/address of the house



DATA CLEANING PROCESS:

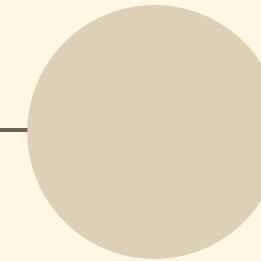
STEP 1:

.Import libraries like pandas, numpy, and visualization tools

STEP 2:

- The dataset has no missing values, as indicated by 5000 non-null entries for each column.
- Data Types: Mostly float64 for numerical features, object for the Address column

MODEL TESTING & ACCURACY CHECK:



TESTING THE MODEL:

Use the test set to evaluate performance.

ACCURACY GOAL:

Aim for a score above 90%

ACCURACY CHECK:

Calculate the score to confirm model accuracy

DATA SPLITTING & MODEL TRAINING:

- Train-Test Split: Divide the data into training and testing sets using `train_test_split` from `sklearn`.
- Training the Model: Train on 80% of the data to find patterns.
- Algorithms Used: Start with Linear Regression, then try other models like Decision Trees or Random Forests.



ERROR METRICS:

- Metrics Used:
 - MAE (Mean Absolute Error)
 - RMSE (Root Mean Squared Error)
 - R² (R-squared)
- Purpose: These metrics help determine how close the predictions are to actual prices.

RESULTS & CONCLUSION:

- If Score > 90%: Model is working well and can predict prices accurately.
- Final Output: Automated system for estimating house prices based on user inputs.
- Impact: Helps users make fast, data-driven decisions on house purchases.

THANK YOU

