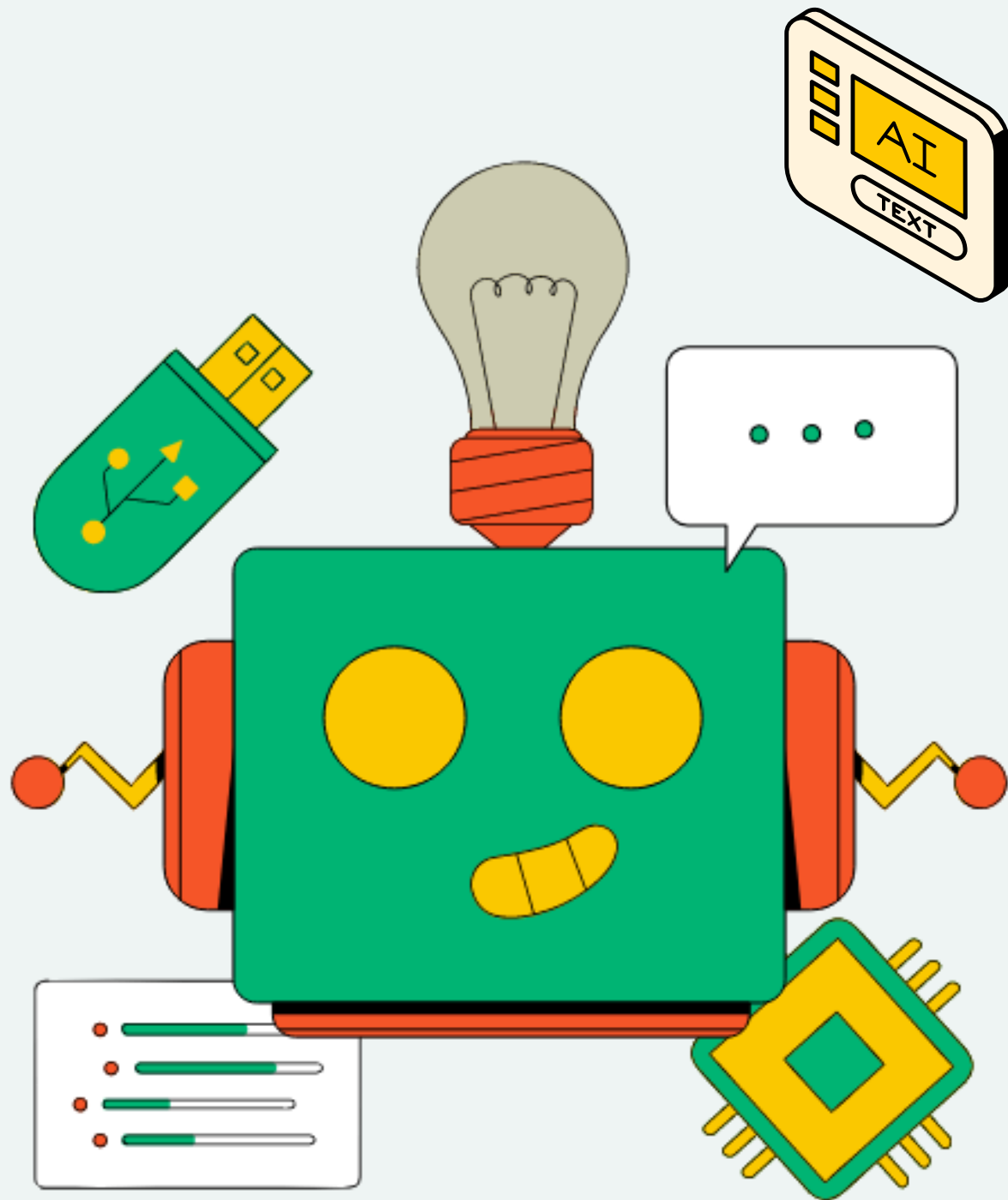




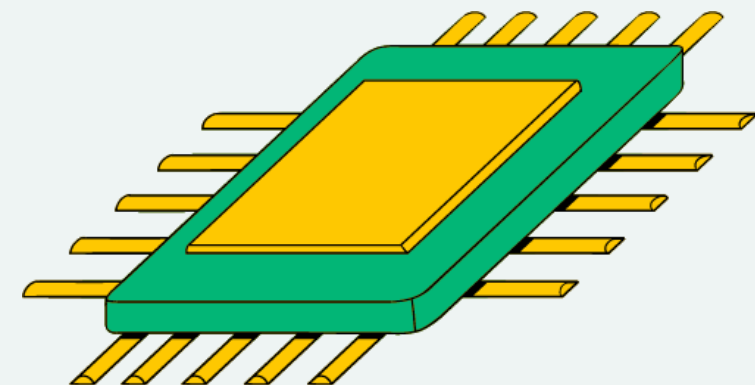
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MACHINE LEARNING COURSE END PROJECT

PRESENTED BY:

RAMYA
160122771085



HOUSE PRICE PREDICTION USING MACHINE LEARNING



INTRODUCTION

Predicting house prices is a critical task in the real estate industry, enabling stakeholders to make informed decisions.

This project aims to build a machine learning model to predict house prices using various features such as the number of rooms, location, and other relevant attributes.





DATASET

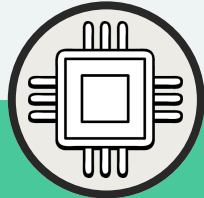
HousePricePrediction.csv

Features :

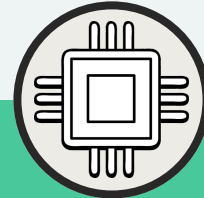
- Id
- MSSubClass
- MSZoning
- LotArea
- LotConfig
- BldgType
- OverallCond
- YearBuilt
- YearRemodAdd
- Exterior1st
- BsmtFinSF2
- TotalBsmtSF
- SalePrice



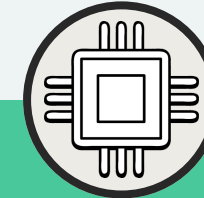
DATA PREPROCESSING



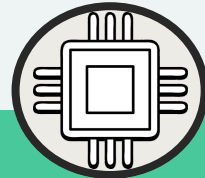
Identifying and separating categorical, integer, and float variables.



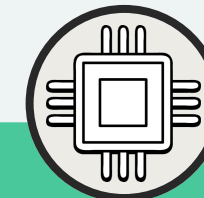
Conducting exploratory data analysis.



Handling missing values.



Encoding categorical variables using One-Hot Encoding.



Splitting the dataset



ALGORITHMS POSSIBLE

- SVM-Support Vector Machine

- Random Forest Regressor

- Linear Regressor

- CatBoost Classifier



I used here is SVM.

SVM is a powerful and flexible machine learning algorithm that can be used for classification and regression problems, goal is to categorize data into different classes.



EXECUTION



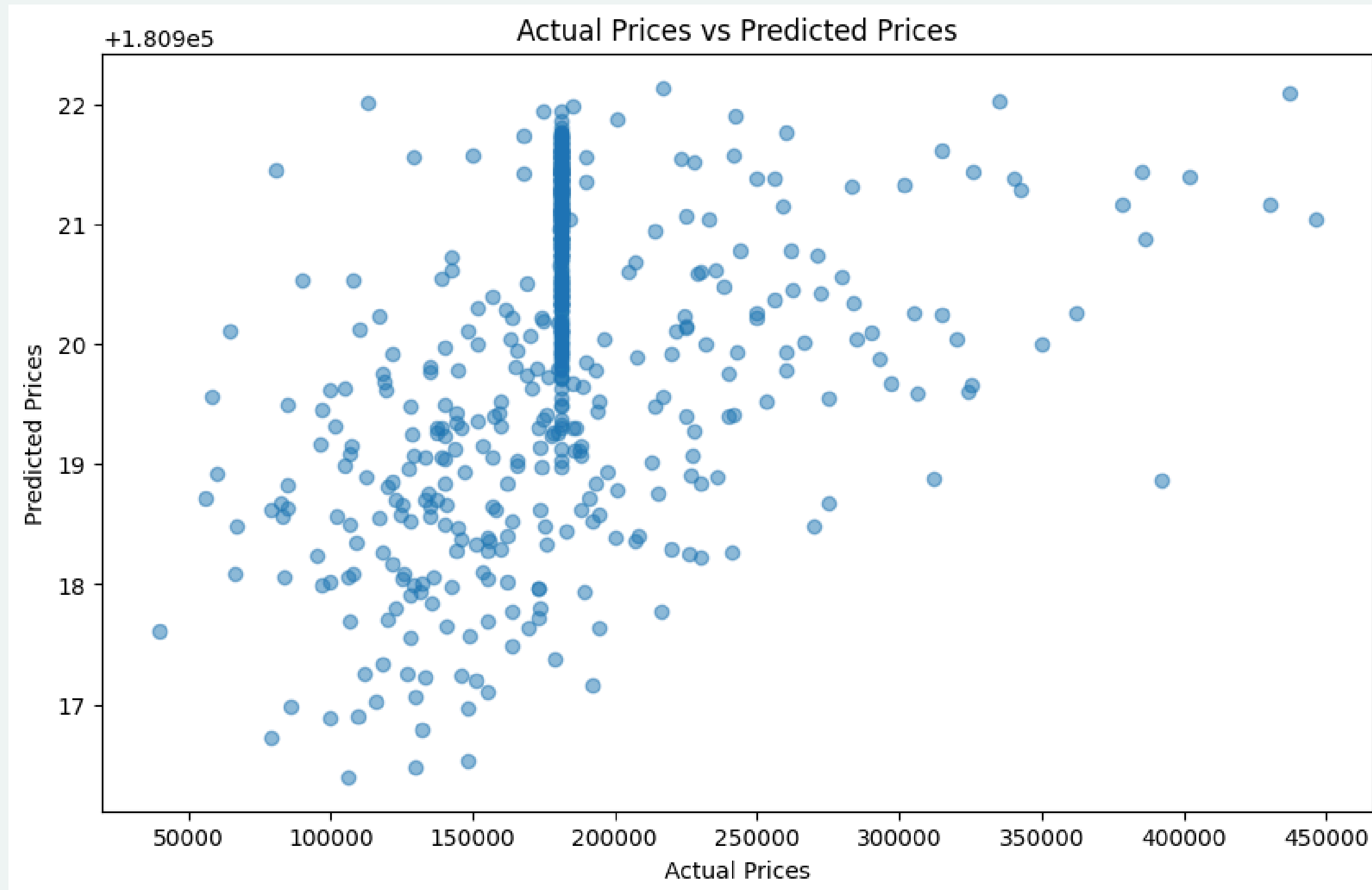
```
from sklearn import svm
from sklearn.svm import SVC
from sklearn.metrics import mean_absolute_percentage_error
model_SVR = svm.SVR()
model_SVR.fit(X_train,Y_train)
Y_pred = model_SVR.predict(X_valid)
print("Mean Absolute Percentage Error:",
mean_absolute_percentage_error(Y_valid, Y_pred))

plt.figure(figsize=(10, 6))
plt.scatter(Y_valid, Y_pred, alpha=0.5)
plt.xlabel("Actual Prices")
plt.ylabel("Predicted Prices")
plt.title("Actual Prices vs Predicted Prices")
plt.show()
```



RESULTS

Mean Absolute Percentage Error: 0.18704778826125987



The image features a vibrant blue background with a large, dark blue, irregular shape in the center. Overlaid on this shape is the text 'THANK YOU' in a bold, white, sans-serif font. The design is enhanced with various abstract elements: a teal pill-shaped shape at the top left, a teal circle at the bottom right, and several diagonal teal lines on the left and right sides. In the top right and bottom left corners, there are grids of small teal dots.

**THANK
YOU**