UNIVERSITY OF MUMBAI

PROJECT SYNOPSIS ON

REAL ESTATE PRICE PREDICTION PROJECT

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MAHARASHTRA

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Real Estate Price Prediction Project

Investment is a business activity on which most people are interested in this globalization era. There are several objects that are often used for investment, for example, gold, stocks and property. In particular, property investment has increased significantly.

Housing price trends are not only the concern of buyers and sellers, but it also indicates the current economic situation. There are many factors which has impact on house prices, such as numbers of bedrooms and bathrooms. Even the nearby location, a location with a great accessibility to highways, expressways, schools, shopping malls and local employment opportunities contributes to the rise in house price.

Manual house predication becomes difficult, hence there are many systems developed for house price prediction. We have proposed an advanced house prediction system using linear regression. This system aim is to make a model which can give us a good house pricing prediction based on other variables. We are going to use Linear Regression for this dataset and hence it gives a good accuracy.

This house price prediction project has two modules namely, Admin and User. Admin can add location and view the location. Admin has authority to add density on the basis of per unit area. User can view the location and see the predicted housing price for the particular location.

❖ STEPS:

This data science project walks through step by step process of how to build a real estate price prediction website.

We will first build a model using sklearn and linear regression using banglore home prices dataset from kaggle.com.

Second step would be to write a python flask server that uses the saved model to serve http requests.

Third component is the website built in html, css and javascript that allows user to enter home square ft area, bedrooms etc and it will call python flask server to retrieve the predicted price.

During model building we will cover almost all **data science concepts** such as **data load and cleaning**, **outlier detection** and **removal**, feature engineering, dimensionality reduction, gridsearchcv for hyperparameter tunning, k fold cross validation etc. Technology and tools wise this project covers,

1) Python

2) Numpy and Pandas for data cleaning

3) Matplotlib for data visualization

4) Sklearn for model building

5) Jupyter notebook, visual studio code and pycharm as IDE

6) Python flask for http server

7) HTML/CSS/Javascript for UI

❖ Modules:

The system comprises of 3 major modules with their sub-modules as follows:

1. **Admin:**
    - **Add Location:** Admin can add locations.
    - **View Location:** Admin can View the added location.
    - **Add Density:** Admin can add density of the houses by per unit area.

2. **User:**
    - **View Location:** User can view the location.
    - **View Predicted housing price:** User can view the predicted price of house.

❖ Hardware Requirement:

- Processor –Core i3
- Hard Disk – 160 GB
- Memory – 1GB RAM

❖ Software Requirement:

- Windows 7 or higher
- Python
- python flask server

❖ Advantages

- Saves time
- Easy to access the system anywhere and anytime.

❖ Limitation

- Requires an active internet connection.

❖ Application

- This system can be used by the multiple peoples to get the counselling sessions online.

❖ Reference

✔ Find Open Datasets and Machine Learning Projects | Kaggle

✔ Towards Data Science

✔ RxJS, ggplot2, Python Data Persistence, Caffe2, PyBrain, Python Data Access, H2O, Colab, Theano, Flutter, KNime, Mean.js, Weka, Solidity (tutorialspoint.com)

✔ Learn R, Python & Data Science Online | DataCamp

✔ (8) YouTube