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House Price Prediction

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ABSTRACT

Housing prices are a significant indicator of the health of the economy, and both buyers and sellers are keenly interested in price points. In this study, housing costs will be forecasted using explanatory variables that account for a wide range of residential property characteristics. Lasso, Ridge, SVM, and Random Forest regression are some of the regression techniques that will be used to forecast continuous house prices. Naive Bayes, logistic regression, SVM classification, and Random Forest classification will be used to predict individual price ranges. In order to increase the prediction accuracy, PCA will also be used. The objective of this project is to develop a classification and regression model that can precisely predict the cost of the house given the features.

1. Introduction

We need a proper prediction on the real estate and the houses in housing market we can see a mechanism that runs throughout the properties buying and selling buying a house will be a life time goal for most of the individual:

 • Tackling in finding best House Price,

 • Having negotiations and bargaining over house pricing,

• Predicted with Bathroom Hall,Kitchen and Rooms,

• Predict the price for 5,3,2years.

1.1 Introduction to House Price Pridiction.

House Price Pridiction: Household supplies at your home convenience.
➢ Pros: Consumer has access to House Price Pridiction without any restriction.
➢ Regulate the price of House across geographics
➢ Improve the access to House Prices for the citizen of India.
➢ Connecting supply and demand efficiently.
➢ Consumer gets quality and verified priceses at consumer convenience.
➢ A single user can check house price for multiple locations.
➢ Supplier get large consumer base and verified and genuine prices.
➢ Improve the utilization of Real Estate business

2. Information Gathering

Many things need to be taken into consideration when the look and feel of your site is created. Certain things we considered are:
❖ Purpose

 What is the purpose of the site?
Our purpose here is to provide information.

❖ Goals

What do you hope to accomplish by building this web site? Our main goal here is to share
information.

❖ Target Audience

Is there a specific group of people that will help you reach your goals?
It is helpful to picture the ideals of person you want to visit your web site considering their interests which later helped us to determine the best design style for our site.

❖ Content

What kind of information will the target audience be looking for on your site? Our target audience requires to gain
specific information.

2.2 Features

• This website's most fundamental feature is the availability of a Q&A section that allows for much more direct and independent communication between students and instructors.

• Both users who ask questions and those who respond to questions have the option to remain anonymous and conceal their identities.

• The user receives 1 point for each question they ask or answer on this website's point system. When a user earns 100 points overall, they receive a badge.

•This website also features an opinion-poll system that makes it possible to gather data on the opinions of various people on a certain issue. As an illustration, consider responding to a question with "YES" or "NO."

•When asking or responding to questions, a user can use tags to help find similar objects that share the same tag.

•A user can specify a category for the question, much like tags. A new category for a query is sent to the host for confirmation if the user enters one. The question is uploaded with that category if the host approves it; else, it is posted without any categories.

• If there are numerous responses to a question, the person who asked it can select the best response so that whenever the same question is posed by another user, the best response will show up at the top. This functionality so saves time.

3. Development of Project

3.1 Coding: The actual functional website was constructed during the coding part of the web development process. The developer must begin work on creating the actual live web project after the prototype has been properly tested. The actual live web project is constructed in accordance with the specifications.

• In order to construct all of the features for the web project, the developer must take into account every circumstance from the design process.
• Both the front end and the back end of the website are developed at this phase.
• Front end development entails writing codes using fundamental web standards-compliant technologies like HTML, CSS, etc.

3.2 Testing: Testing is an important phase in the web development process.

- Testing is done by developers and testers to make sure the requirements are met after the online project is finished. The website's quality control and browser compatibility are examined in this phase.
- We validated the accuracy of the written code by testing all the developed features.
- Both the testing and development teams perform many sorts of testing during this phase, including integration testing, regression testing, functional testing, smoke testing, load testing, and performance testing.
- Depending on the type of testing and online projects, testing was done manually. If the anticipated and satisfying outcomes are not obtained, the correct steps for bug removal were done..

Installation & Acceptance Test: The production server is loaded with the software artifacts, online help, and initial production data during the

installation and acceptance phase. All test cases are now executed in order to confirm the accuracy and comprehensiveness of the software. Prior to the customer accepting the program, the test suite must run successfully. The customer formally accepts the delivery of the software once customer personnel have confirmed that the initial production data load is accurate and the test suite has been run successfully.

4.Snapshots of House Price Prediction

Fig - 4.1: Home Page for House Price Prediction

This page consists of:

- A AREA in Square feet minimum(1000) number of BHK max 5,number of Bathroom max 5,and Location of House.
- An "Estimate Price" button.

Fig - 4.2: Home Page for House Price Prediction

This page consists of:

- Estimated Price of the property:
  - a) Current Price
  - b) After 5 years
  - c) After 3 years
  - d) After 2 years

5. CONCLUSIONS

The most basic machine learning algorithms, such as decision tree classifier, decision tree regression, and multiple linear regression, are used in this

research. Scikit-Learn is a machine learning tool used in the work. With the use of this work, users may forecast both the availability and cost of homes in the city. The prices of the houses were predicted using two techniques, decision tree regression and multiple linear regression. When predicting property values, multiple linear regression is found to perform comparably better than decision tree regression. In the future, the dataset might be produced with more attributes and the house price prediction model could be built using advanced machine learning techniques.

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