

Real Estate Brokerage Site Management

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Abstract—Nowadays, machine learning is widely used in the real estate industry. It is very helpful to predict property prices, important housing qualities, and many other things because of its capacity to extract pertinent knowledge from raw data. As we've seen, brokers, home owners, and the real estate industry are frequently concerned about price variations in homes. To analyse the pertinent The analysis's findings supported the usage of artificial neural networks, various regression techniques, and XG-Boost as the most efficient models when compared to others. The results also imply that geography and building characteristics have a significant role in forecasting housing affordability. To pinpoint the key factors that influence the growth of housing prices and establish a user-friendly connection between them, this study will be especially helpful to housing developers and researchers.

Index Terms— Prediction of House Prices, Machine Learning, Support Vector Regression.

I. INTRODUCTION

A place to call home is among a person's most basic needs, along with other items like food, water, and many other things. As people's living standards climbed over time, so did the need for housing. Although some people buy homes as investments or as real estate, the majority of people purchase homes for habitation or as a means of support. Housing markets have a beneficial effect on a nation's currency, which is a crucial indicator of the strength of its national economy. In contrast, homeowners will buy items for their homes like furniture and household equipment, and contractors or homebuilders will buy raw materials to build houses to meet housing demand, which is a sign of the economic wave effect brought on by the increased housing supply. In addition, consumers have the resources to make a sizable investment, and a country's abundant housing supply indicates that the construction industry is in good shape. Numerous international organisations have emphasised the significance of human rights.

Each nation's political, financial, and economic systems are deeply ingrained with House. In addition to stating that housing has become unaffordable due to significant price increases in numerous nations in the housing industry, several publications said that the fluctuation of house prices has always been a problem for home owners, buildings, and real estate. The possible rise in home prices affects both the national economy and the quality of life of residents. In the end, investors who are using their home as an investment will be impacted by this problem.

Every year, there is a growth in the demand for homes, which indirectly drives up home prices. The issue arises when there are many factors, such as location and property demand, that could affect the house price. As a result, the majority of stakeholders, including buyers, developers, home builders, and the real estate industry, would like to know the precise characteristics or the accurate factors influencing the house price to assist investors in their decisions and to assist home builders in setting the house price.

II. METHODOLOGY

A. Existing System

In India, there are multiple real estate classified websites where properties are listed for sell/buy/rent purposes such as 99acres, no broker, housing, magic bricks, and many more. However, in each of these websites, we can see a lot of inconsistencies in terms of pricing of a house and there are some cases when similar properties are priced differently and thus there is a lack of transparency and accuracy. Sometimes the customers may feel the value is not justified for a particular listed house but there is no way to confirm and check the data is accurate or not.

Proper evaluations and justified prices of properties can bring in a lot of transparency and trust back to the real estate industry, which is very important as for most consumers, especially in India the transaction prices are quite high, and addressing this issue will help both the customers and the real estate industry in the long run.

B. Proposed System

Decide the Plot

To decide the area in which the property is to be rented, bought or sold.

Sign in to Buyer/Seller account:

If the site is to be purchased, sign in to the buyers section after creating an account. If the property is to be sold, sign in to the seller section after creating an account.

Report the predicted prices:

After logging in and taking the location into consideration, keep an eye on the ongoing price predictions and choose the area or price range that is best for the user in the given timeline. After choosing the area or the property the customer can directly contact the seller for easy interaction and for the privacy part the contacts of the seller or buyer will not be shared.

II. SYSTEM ARCHITECTURE

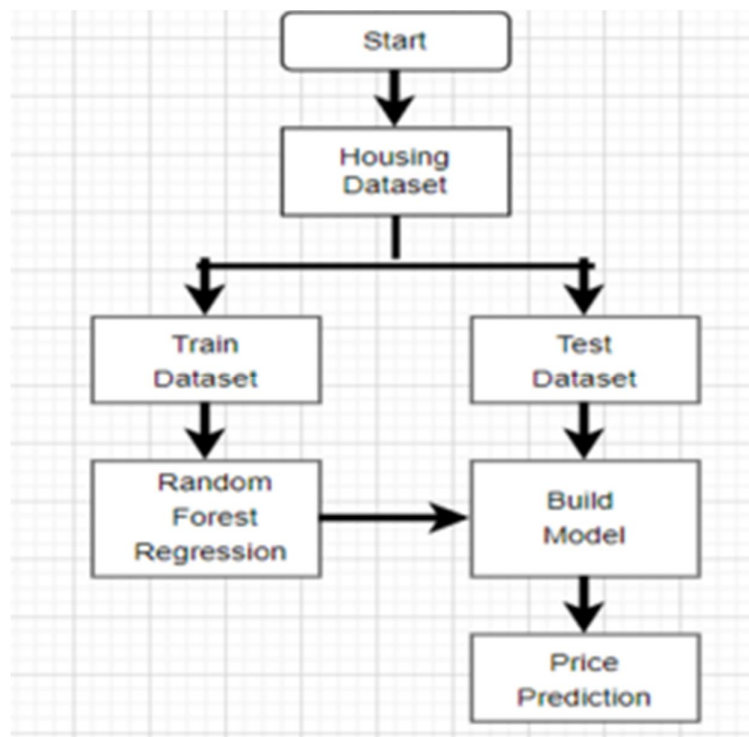


Fig.1 System Architecture

III. LITERATURE REVIEW

Sr. No.	Author & Year	Paper Title	Contribution
1.	Pallavi Haveris U.B. Rashmika D.G. Narayanri K.N. Shivarajshri June.2019	Machine Learning Algorithms for Prediction	Regression and classification algorithms are the most popular options for predicting values, identifying similarities, and discovering unusual data patterns. Successfully able to implement the system which is more accurate and flexible.
2.	Ayush Varma, Abhijit Sarma, Sagar Doshi, Rohini Nair. 15 Oct.2019	H House Price Prediction Using Machine Learning.	According to researchers, a classification algorithm-based prediction of home prices. In this study, multiple classification algorithms like Linear Regression, Decision Tree and Random Forest are employed to predict the selling price of a house. The physical characteristics of a home, its location, and even the economy all have an impact on its price.
3.	Pa Tel.J.Shah, S., Thakkar PJ and Kotecha Keleis. 22 Aug.2020	Us Data Analysis for Prediction of Price	A hybrid regression method for predicting home prices. In this study, the creative feature engineering method is investigated with a small dataset and data characteristics.
4.	W Wilson.I.D, P Paris S.D, W Ware.J.A. 10 June.2021	N Neural Network tool in Price Predictions	Prediction of the real estate price index using a wavelet neural network (NN). The advantages of both wavelet analysis and conventional NN were combined in this type of wavelet NN. Additionally, it compared the NN forecast and smoothing method results for forecasting. Back Propagation (BP) NN-based real estate price index forecast. The sigmoid function was employed by the BPN.

IV. APPLICATIONS

1. The best estimates of the unknown parameters are those derived by using linear least squares regression.
2. Prediction gives proper idea for user about houses
3. It uses data very efficiently and in proper way.
4. Good results can be obtained with relatively small data sets.
5. Proper Management of funds, property related queries, etc.

As long as the predictors are additive, a linear model can contain many predictors. The line with the least amount of error across all the points is the best match; it has a high efficiency but occasionally this high efficiency is unintentionally created.

CONCLUSION

In this paper, we are surveying some of the research papers that had relatable work on the same topic and found some concludes with that.

This project's primary objective is to predict prices, which we have successfully accomplished using a variety of machine learning algorithms, including a Random Forest, multiple regression, Support Vector Machine, gradient boosted trees, neural networks, and bagging.

It is obvious that the Random Forest has a higher prediction accuracy than the others, and our research also enables you to discover the role that attributes play in prediction. There are different algorithms used for prediction purpose but classification and regression are mostly used in this type of problems.

It helps in managing the real estate brokers and users to communicate easily for business needs and for people who don't have knowledge about pricing and ongoing rates of properties or real estate.

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