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PREDICTION OF HOUSE PRICE USING SML TECHNIQUE

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ABSTRACT:

Machine Learning plays a virtual role from past few years in normal speech command, product recommendation as well as in health care field also. Instead of this it provides better customer services and safer automobile system. This all of things shows that ML is trending technology in almost all fields so we are trying to coined up ML in our project. Nowadays the real estate market is a stand out amongst the most focused regarding pricing and keep fluctuating. People are looking to buy a new home with their budgets and by analyzing market strategies. But main disadvantage of current system is to calculate a price of house without necessary prediction about future market trends and result is price increase. So, the main aim of our project is to predict accurate price of house without any loss. There are many factors that have to be taken into consideration for predicting house price and try to predict efficient house pricing for customers with respect to their budget as well as also according to their priorities. So, we are creating a housing cost prediction model. By using Machine learning algorithms like Linear Regression, Decision Tree Regression, Lasso Regression and Random Forest Regression. This model will help people to put resources into a bequest without moving towards a broker. The result of this research provide that the Random Forest Regression gives maximum accuracy.

I INTRODUCTION:

Housing price forecasting plays a vital role in macroeconomic and financial decision supporting. In the past decade, a global financial crisis has been witnessed, due to inaccurate housing price forecasting and unconscionable financial policy making. In terms of spatial granularities of predictions, existing studies on housing price forecasting models are mostly on city levels, for supporting macroeconomic analysis and policymaking. The city-level forecasting, however, cannot capture the fact of imbalanced development between a city's mile-level sub-regions. For instance, the average real estate prices of three districts in Sept. 2018 increased more than 10% while the average prices of the other six districts decreased about 5% during the same period.
According to, housing markets have a positive impact on a country's currency, which is an important national economy scale. Homeowners will purchase goods such as furniture and household equipment for their home, and homebuilders or contractors will purchase raw material to build houses to satisfy house demand, which is an indication of the economic wave effect created by the new house supply. Besides that, consumers have capital to make a large investment, and the construction industry is in good condition can be seen through a country's high level of house supply.

For the buyers of land properties, and automated value forecast structure can be helpful to discover under/over rated properties presently available. The information will be very much valuable for the initial buyers with low or zero experience and propose buying techniques for purchasing properties. Machine learning based algorithms was implemented in orders like mechanical designing, bioinformatics, clinical, drugs, actual science, and measurements to gather data and figure prospect occasions. In the present developmental growth of housing market, machine learning plays a vital role to forecast the property price.

II EXISTING SYSTEM:

Urban housing price is widely accepted as an economic indicator which is of both business and research interest in urban computing. However, due to the complex nature of influencing factors and the sparse property of transaction records, to implement such a model is still challenging. To address these challenges, in this work, we study an effective and fine-grained model for urban sub-region housing price predictions. Compared to existing works, our proposal improves the forecasting granularity from city-level to mile-level, with only publicly released transaction data. We employ a feature selection mechanism to select more relevant features. a fine-grained forecasting model, JGC MMN, for sub-region spatiotemporal housing price prediction. In particular, we modify the structure of Dense Net and adopt the method of bagging by fusing the KF-based method to improve the accuracy.

III PROPOSED SYSTEM:

Exploratory Data Analysis of house Prediction:

Multiple -datasets from different sources would be combined to form a generalized dataset, and then different machine learning algorithms would be applied to extract patterns and to obtain results with MAE.

Data Wrangling:

In this section of the report will load in the data, check for cleanliness, and then trim and clean given dataset for analysis. Make sure that the document

steps carefully and justify for cleaning decisions.

Data collection:

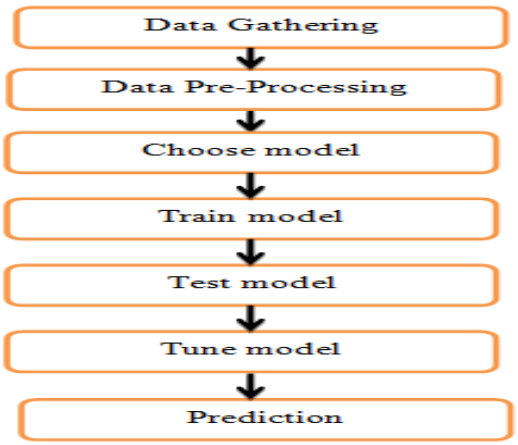
The data set collected for predicting given data is split into Training set and Test set. Generally, 7:3 ratios are applied to split the Training set and Test set. The Data Model which was created using machine learning algorithms are applied on the Training set and based on the test result MAE, Test set process is done.

Building the regression model:

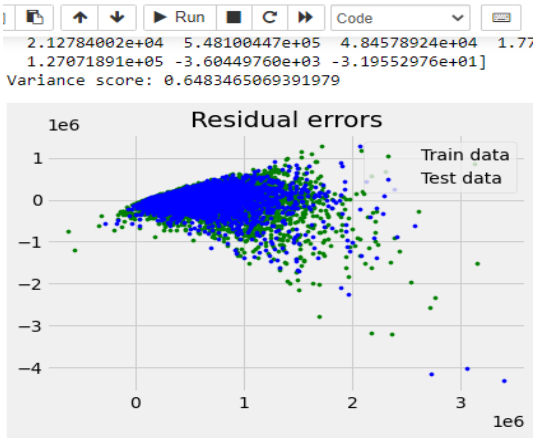
The predicting the house price problem, decision tree regression model is effective because of the following reasons: It provides better results in regression problem.

- It is strong in preprocessing outliers, irrelevant variables, and a mix of continuous, regression and discrete variables.

It produces out of bag estimate error which has proven to be unbiased in many tests and it is relatively easy to tune with.



PROCESS OF DATAFLOW DIAGRAM



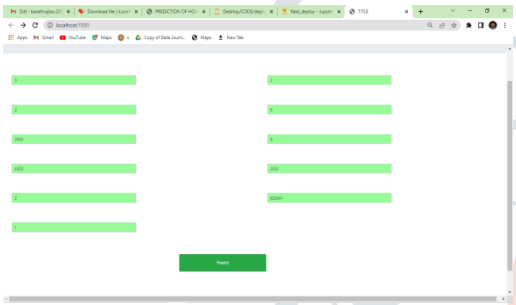
IV FUTURE ENHANCEMENT:

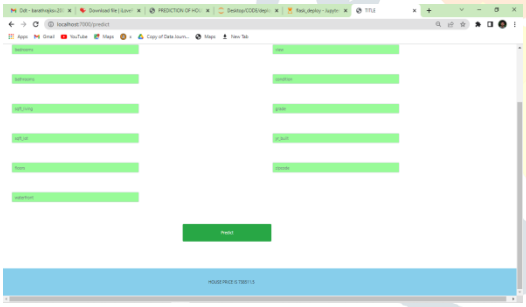
Future work on this study could be divided into seven main areas to improve the result even further.

- House Price prediction to connect with AI model.
- To automate this process by show the prediction result in cloud.
- To optimize the work to implement in Artificial Intelligence environment.
- The used pre-processing methods do help in the prediction accuracy. However, experimenting with different combinations of pre-processing methods to achieve better prediction accuracy.
- Make use of the available features and if they could be combined as binning features has shown that the data got improved.
- The correlation has shown the association in the local data. Thus, attempting to enhance the local data is required to make rich with features that vary and can provide a strong correlation relationship.

V RESULT:

The whole work is mainly concentrated on the analyzing the various machine learning algorithms (Logistic Regression, Linear Regression, Decision Tree Regression ,Random Forest Regression, Support Vector Regression, Lasso Regression) with respect to house pricing Dataset. From the examination study, the Random Forest Regression machine regression has high accuracy using the performance measures [MSE] and [RMSE]





VI CONCLUSION:

The analytical process started from data cleaning and processing, missing value, exploratory analysis and finally model building and evaluation. The best accuracy on public test set is higher accuracy score is will be find out. This application can help to find the House Price. We have overseen out how to set up a model that gives clients for an original best methodology with look at future dwelling esteem expectations. Straight previous suggest works bring been used inside our model, something appreciate that that future worth expectations will have an inclination towards even more reasonable qualities. We composed an approach with use in basically the same manner as significantly data as time licenses for our expectation framework, by embracing those thoughts from guaranteeing inclination supporting. These consolidate redesigns we didn't choose as a result of compelled length of the time. A genuine concern for the expectation structure may be the stacking time frame. Additionally, our informational collection takes more than one day ought to get ready. As gone against playing out the calculations consecutively, we may use different processors and equal the calculations in question, which may potentially diminish the planning time Furthermore expectation period. Incorporate even more functionalities under the model, we can give decisions for customer with select a region on the other hand district should deliver rather than entering in the rundown.

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