IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 6, June 2022

DOI: 10.17148/IJARCCE.2022.11650

PREDICTION OF HOUSE PRICINGUSING SMLT

V. Jagadeesh[1], J. Sai Saran[2], Mrs. K. Malathi[3]

Student, B.E. Computer Science and Engineering, Anand Institute of Higher Technology, Chennai, India[1,2]

Assistant Professor, CSE, Anand Institute of Higher Technology, Chennai, India[3]

Abstract : Generally, predicting how the house price will perform is one of the most difficult things to do. It canbe described as one of the most critical process to predict that. This is a very complex task and has uncertainties.To prevent this problem in One of the most interesting (or perhaps most profitable) time series data using machine learning techniques. Hence, house price prediction has become an important research area. The aim is to predict machine learning based techniques for house price prediction results in error based calculation. The analysis of dataset by supervised machine learning technique(SMLT) to capture several informations, missing value treatments and analyze the data validation, data cleaning/preparing and data visualization will be done on the entire given dataset. To propose a machine learning-based method to accurately predict the house price Index value byprediction results in the form of house price increase or stable state best regression from comparing supervise machine learning algorithms. Additionally, to compare and discuss the performance of various machine learning algorithms. dataset with evaluation classification report, to categorizing data from priority and the result shows thatthe effectiveness of the proposed machine learning algorithm technique can be compared with best accuracy MAE, MSE, R^2.

I. INTRODUCTION

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured and unstructured data, and apply knowledge and actionable insights from data across a broad range of application domainsThe term "data science" has been traced back to 1974,when Peter Naur proposed it as an alternative name for computer science. In 1996, the International Federation of Classification Societies became the first conference to specifically feature data science as a topic. However, the definition was still in flux.

The term “data science” was first coined in 2008 by D.J. Patil, and Jeff Hammerbacher, the pioneer leads ofdata and analytics efforts at LinkedIn and Facebook. In less than a decade, it has become one of the hottest and most trending professions in the market.Data science is the field of study that combines domain expertise, programming skills, and knowledge of mathematics and statistics to extract meaningful insights from data.

Data science can be defined as a blend of mathematics, business acumen, tools, algorithms and machine learning techniques, all of which help us in finding out the hidden insights or patterns from raw data which can be ofmajor use in the formation of big business decisions.Data scientists examine which questions need answering and where to find the related data. They have business acumen and analytical skills as well as the ability to mine, clean, and present data. Businesses use data scientists to source, manage, and analyze large amounts of unstructured data

1.1 OBJECTIVE

The goal is to develop a machine learning model for House Price Prediction, to potentially replace the updatable supervised machine learning regression models by predicting results in the form of best accuracy by comparing supervised algorithm.

1.2 SCOPE

Prediction house prices are expected to help people who plan to buy a house so they can know the price range in the future, then they can plan their finance well. In addition, house price predictions are also beneficial for property investors to know the trend of housing prices in a certain location.

II. ANALYSIS

2.1 SYSTEM ANALYSIS

System Analysis is a combined process dissection the system responsibilities that are based on problem domain characteristics and user requirement.

International Journal of Advanced Research in Computer and Communication Engineering
ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 6, June 2022
DOI: 10.17148/IJARCCE.2022.11650

2.1.1 Problem Definition

Prices of real estate properties are sophisticatedly linked with our economy. Despite this, we do not have accurate measures of housing prices based on the vast amount of data available. Theref\ore, the goal of this project is to use machine learning to predict the selling prices of houses based on many economic factors. A systematic method can be built to derive a layered knowledge graph and design a structured Deep Neural Network (DNN) based on it. Neurons in a structured DNN are structurally connected, which makes the network time and space efficient; and thus, it requires fewer data points for training. The structured DNN model has been designed to learn from the most recently captured data points which allows the model to adapt to the latest market trends. To demonstrate the effectiveness of the proposed approach, we can use a case study of assessing real properties in small towns.

2.1.2 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 subregion 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 subregion spatiotemporal housing price prediction.

2.1.3 Proposed system

Multiple datasets from different kaggle would be combined to form a generalized dataset. In data wrangling section the loaded data will check for cleanliness, and then trim and clean given dataset for analysis. Different machine learning algorithms would be applied to extract patterns and to obtain results with maximum accuracy. 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.

III. MODULES

4.1 Data Pre-processing
4.2 Data Analysis of Visualization
4.3 Comparing Algorithm with prediction in the result
4.4 Deployment Using Flask

4.1 Data pre-processing

Validation techniques in machine learning are used to get the error rate of the Machine Learning (ML) model, which can be considered as close to the true error rate of the dataset.

4.2 Data analysis of visualization

Data visualization is an important skill in applied statistics and machine learning. Statistics does indeed focus on quantitative descriptions and estimations of data. Data visualization provides an important suite of tools for gaining a qualitative understanding.

4.3 Comparing algorithm with prediction

It is important to compare the performance of multiple different machine learning algorithms consistently and it will discover to create a test harness to compare multiple different machine learning algorithms in Python with scikit-learn.

4.4 Deployment

Flask is a micro web framework written in Python. It is classified as a micro-framework because it does not require particular tools or libraries. It has no database abstraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions.

IV. RESULTS AND DISCUSSION

The result is generated by comparing the accuracy of the different algorithm with the existing system to that of the

International Journal of Advanced Research in Computer and Communication Engineering
ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 6, June 2022
DOI: 10.17148/IJARCCE.2022.11650

proposed system. Various experiments have performed to evaluate the accuracy of the result. The comparison is based on the analyzed value of the existing. By comparing the following six algorithms the resultis evaluated, the below algorithms are used to predict the result,

V. 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 ourmodel, 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 morethan 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.

REFERENCES

1. Zhan, C., Wu, Z., Liu, Y., Xie, Z. and Chen, W., 2020, July. Housing prices prediction with deep learning: an application for the real estate market in Taiwan. In 2020 IEEE 18th International Conference on Industrial Informatics(INDIN) (Vol. 1, pp. 719-724). IEEE.
2. Piao, Y., Chen, A. and Shang, Z., 2019, August. Housing price prediction based on cnn. In 2019 9th international conference on information science and technology (ICIST) (pp. 491-495). IEEE.
3. Madhuri, C.R., Anuradha, G. and Pujitha, M.V., 2019, March. House priceprediction using regression techniques: a comparative study. In 2019 International Conference on Smart Structures and Systems (ICSSS) (pp. 1-5). IEEE.
4. Kumar, G.K., Rani, D.M., Koppula, N. and Ashraf, S., 2021, June. Prediction of House Price Using Machine Learning Algorithms. In 2021 5th International Conference on Trends in Electronics and Informatics(ICOEI) (pp. 1268-1271). IEEE.
5. Limsombunchao, V., 2004. House price prediction: hedonic price model vs.artificial neural network.