

Housing Price Prediction



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Abstract

- ❑ Real estate is least transparent industry in our ecosystem.
- ❑ House prices increase every year, so there is a need for a system to predict house prices in the future.
- ❑ Predicting House Prices with real factors.
- ❑ We aim to make evaluations based on every basic parameter that is considered while determining the price

Introduction

- ❑ Problem Faced during buying a house
- ❑ Buying a house is stressful thing.
- ❑ Buyers are generally not aware of factors that influence the house prices.
- ❑ Many problems are faced during buying a house.
- ❑ Hence real estate agents are trusted with the communication between buyers and sellers as well as laying down a legal contract for the transfer. This just create a middle man and increases the cost of houses.

Goal



- ❑ The main goal of the Project is to predict the efficient house pricing for real estate customers with respect to their budgets and priorities.
- ❑ Our goal to deliver a perfect software which will be benefitting our user in an interactive way.
- ❑ The Focus is to create an “easy to use” website, which will allow to first time customer to complete their needs and ease.
- ❑ To make a customizable system including maximum option.
- ❑ To increase the ease of productivity.

Purpose

- ❑ We want to overcome the problems of existing prediction of house in the market.
- ❑ Removal of data storing through manual means.
- ❑ Provide a better services than the Previous one's.

They believe that it depends upon:

- 1) The Square feet area
- 2) Neighbourhood
- 3) The number of bedrooms

But it depends upon many factors also...such as:

- No. of Storeys
- Area outside the house
- Rooms on one floor

Project Summary

- Our Project is an machine learning app, based on certain specifications of your future home it will try to guess the most accurate price.
- Information such as state, city, land_space etc.

Technology Used

1. Machine Learning -:

- “A computer program is said to learn from experience E with respect to some class of tasks T and performance measure P , if its performance at tasks in T , as measured by P , improves with experience E .”
- Example: predicting whether the given object is pencil or pen?
 - E = the experience of predicting many pens and pencil.
 - T = the task of predict pen and pencil
 - P = the probability that of whether it is a pencil or pen.

- In general, any machine learning problem can be assigned to one of two broad classification:
- Supervised and Unsupervised learning.

Supervised Learning:-

- 1) In supervised learning , we are given a data set and already know what our correct output should look like, having the idea that there is a relationship between the input and the output. Supervised learning problems can be categorized into “regression” and “classification” problems.
- 2) In regression problems, we are trying to predict results within a continuous output, meaning that we are trying to map input variables to some continuous function.
- 3) In classification problem, we are trying to predict results in a discrete output. In other words, we are trying to map input variables into discrete categories.

Unsupervised Learning:-

Unsupervised learning allows us to approach problems with little or no idea what our results should look like. We can derive structure from data where we don't necessarily know the effect of the variables. We can derive this structure by clustering the data based on relationships among the variables in this data. With Unsupervised learning there is no feedback based on the prediction results.

Linear Regression

Linear Regression is the basic form of regression analysis. It assumes that there is a linear relationship between the dependent variable and the predictor(s). In regression, we try to calculate the best fit line which describes the relationship between the predictors and predictive/dependent variable.

Example

Tools Used

Output Screen

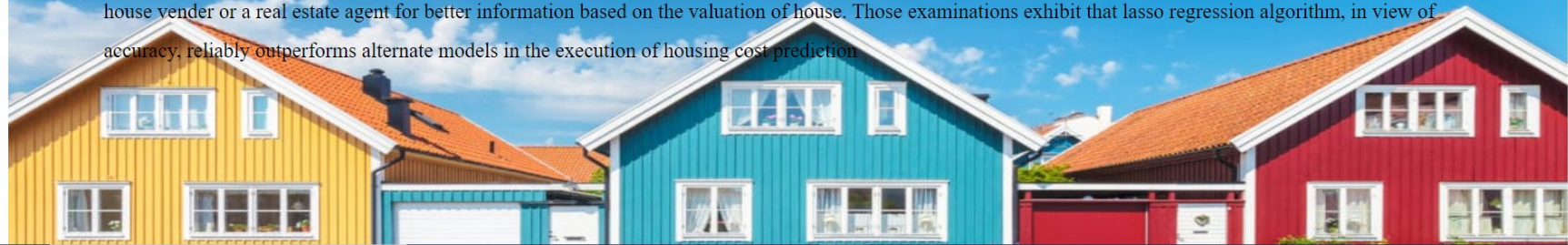
The background of the slide is composed of several overlapping, semi-transparent geometric shapes. On the left, there is a large, solid dark blue-grey area. To the right, there are several green shapes in various shades, ranging from a light lime green to a darker forest green. These shapes are primarily triangular and polygonal, creating a modern, abstract design. A thin, dark line runs diagonally across the lower right portion of the slide, intersecting some of the green shapes.





About

Machine learning plays a major role from past years in image detection, spam reorganization, normal speech command, product recommendation and medical diagnosis. Present machine learning algorithm helps us in enhancing security alerts, ensuring public safety and improve medical enhancements. Machine learning system also provides better customer service and safer automobile systems. In the present paper we discuss about the prediction of future housing prices that is generated by machine learning algorithm. For the selection of prediction methods we compare and explore various prediction methods. We utilize lasso regression as our model because of its adaptable and probabilistic methodology on model selection. Our result exhibit that our approach of the issue need to be successful, and has the ability to process predictions that would be comparative with other house cost prediction models. More over on other hand housing value indices, the advancement of a housing cost prediction that tend to the advancement of real estate policies schemes. This study utilizes machine learning algorithms as a research method that develops housing price prediction models. We create a housing cost prediction model In view of machine learning algorithm models for example, XGBoost, lasso regression and neural system on look at their order precision execution. We in that point recommend a housing cost prediction model to support a house vender or a real estate agent for better information based on the valuation of house. Those examinations exhibit that lasso regression algorithm, in view of accuracy, reliably outperforms alternate models in the execution of housing cost prediction





HOW IT WORKS?

- ❑ Collecting Data: First step was to collect data, we collected data from kaggle website source and merged them together to form our training dataset.
- ❑ Then we trained the model using machine learning algorithm which in this case is linear regression.
- ❑ Based on the generated graphs we predict the cost of house.

Future Work

More number of data sets can be used to increase the accuracy of the model. The main objective of using a different model should be to reduce the calculation time and carry out the whole process in ease.

In Future we can try to make “ALL IN ONE APPLICATION ” where users can easily find according to their needs.

THANK-YOU...