Graphic Era Deemed To Be University

DEHRADUN

MINI PROJECT REPORT

UNIVERSITY ROLL NO. : 2015097

ENROLLMENT NO. : GE-192015097

ADMISSION NO. : 19021782

NAME : RITVIK SHARMA

SECTION : ML

SEMESTER : 3rd (III)

SESSION : 2020 – 2021

COURSE : BACHELOR'S OF TECHNOLOGY

BRANCH : CSE (MACHINE LEARNING & ARTIFICIAL INTELLIGENCE)

TOPIC OF PROJECT : HOUSING PRICE PREDICTION USING ML.

CONTENTS

PROBLEM STATEMENT

There are many factors which are directly one's finances and economy. One of those main factor is house or real estate properties and yet there are no measures for deciding the prices for these properties accurately based on the available data which leads to future issues. Thus, the main aim of this machine learning project is to predict the selling price of houses depending on various factor.

DESCRIPTION

In this project, a machine learning model is created to predict the prices of houses by using factors like avg. number of bed rooms, avg. age of houses based on that area.

For training and testing, the dataset was first made suitable and then converted into a CSV file for further procedure.

We used a linear regression model here for training the model because of its suitability.

PROGRAMMING LANGUAGE

- Python 3 (version 3.7.6)

TOOLS USED

- JUPYTER Notebook (For coding)
- MS-Excel (For accessing CSV file)

LIBRARIES

- Numpy
- Pandas (For Dataset)
- Matplotlib (For Data Visualization)
- Sklearn (For getting Accuracy Score and other metrics)

OTHER

- LINEAR Regression (Model for training)

MOTIVATION

Machine learning is one of the most widely used technology today.

Because of its usability and my interest, this project was a great opportunity for me to learning more about this and testing my skills in it.

As it comes with a great perk for making calculated predictions accurately and getting accurate estimations, this combining with other technologies offers limitless application in future.

Machine learning can be used in domains like medical, food, finance, economy and so on and thus I decided to build my project around machine learning.

PROCEDURE

These are the following steps which were involved in the making of this project:-

- **COLLECTING DATASET**
    1. We used our dataset from Kaggle which includes the prices of house in a particular area varying with average number of rooms, average age of houses etc.
    2. After getting the dataset, the dataset is then loaded in the program and is split into two part. One for training and another for testing.
- **TRAINING AND TESTING MODEL**
    1. A model is created (linear regression first) and then training data is used to train the model by fitting it in model.
    2. After the model, the model is tested using testing dataset for checking its accuracy of making predication and accuracy.

3. The accuracy of the model can checked on parameter like accuracy score.

- **FOR DIFFERENT MODEL**
  1. For other suitable models, repeat the above steps with taking a different model next time.

CONCLUSION

At the end, I can conclude that after following the above procedures I was able to build above project and check the accuracy for two different models.

Accuracy score,

Model 1 : ~ 90%

Model 2 : ~ 70%

REFERNCE

1. Dataset : https://www.kaggle.com/vedavyasv/usa-housing
2. JUPYTER website : https://jupyter.org/

OTHER LINKS

1. GITHUB : https://github.com/RiTvIkSh/Miniproject