Performance Analysis and Evaluation of Regression Techniques in Prognosticating Housing Prices

Group Name: The Mean Squares

Team Members

Sr. No.	Name	Student No.	UOW Mail
1.	Prafful Jagtap	6336164	psj505@uowmail.edu.au
2.	Sajith Nair	6307449	svn518@uowmail.edu.au
3.	Jyotsna Adari	6408333	jra568@uowmail.edu.au
4.	Yatanwala Thilini	6326912	ywtmy731@uowmail.edu.au
5.	Ashwini Chittawadagi	6347617	ac658@uowmail.edu.au

Table of Contents

System Requirements

Python

Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace.

Installation

Method 1 - Official Python Website

Step 1 -

Download the latest python (3.7.3) from the official python website by choosing the Operating System. Install once downloaded.
URL - https://www.python.org/downloads/

Step 2 -

Copy and paste the path of the Python and Scripts folder (inside the python folder) to the global variables.

Method 2 - Anaconda

Anaconda is a free and open-source distribution of the Python and R programming languages for scientific computing, that aims to simplify package management and deployment. Package versions are managed by the package management system conda.

Step 1 -

Download anaconda from the official anaconda website.
URL - https://www.anaconda.com/

Step 2 -

Select all the necessary components such as Jupyter Notebook and other libraries that will be mentioned in this document later.

Jupyter Notebook

Project Jupyter is a nonprofit organization created to "develop open-source software, open-standards, and services for interactive computing across dozens of programming languages". Spun-off from IPython in 2014 by Fernando Pérez, Project Jupyter supports execution environments in several dozen languages.

Installation

Once python has been installed and the directory's address has been set as environment variable -

Step 1 -

Open terminal on Linux or MacOS or Command Prompt on Windows..

Step 2 -

Type the following commands to check if Python and pip can be accessed globally -
>> python --version
>> pip --version

Step 3 -
Install jupyter-notebook using the following command.

>> pip install jupyter

Libraries

Pandas

Definition
In computer programming, pandas is a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series. It is free software released under the three-clause BSD license.

Installation
>> pip install pandas

Numpy

Definition
NumPy is a library for the Python programming language, adding support for large, multi-dimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.

Installation
>> pip install numpy

Scipy

Definition
SciPy is a free and open-source Python library used for scientific computing and technical computing. SciPy contains modules for optimization, linear algebra, integration, interpolation, special functions, FFT, signal and image processing, ODE solvers and other tasks common in science and engineering.

Installation
>> pip install scipy

Matplotlib

Definition

Matplotlib is a plotting library for the Python programming language and its numerical mathematics extension NumPy. It provides an object-oriented API for embedding plots into applications using general-purpose GUI toolkits like Tkinter, wxPython, Qt, or GTK+

Installation

>> pip install matplotlib

Scikit-Learn

Definition

Scikit-learn is a free software machine learning library for the Python programming language. It features various classification, regression and clustering algorithms.

Installation

>> pip install scikit-learn

Seaborn

Definition

Seaborn is a python data visualization library based on matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics.

Installation

>> pip install seaborn

Code Execution

Step 1 -
Navigate to the project directory from terminal or command prompt.

Step 2 -
Enter the following command.

>> **jupyter-notebook**

Step 3 -
Open the file '***house_price_predictor.ipynb***'.

Step 4 -
Select all cells at once and click on '**Run'**.