ARCHITECTURE DESIGN

Restaurant Rating Prediction

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Abstract

The number of restaurants is increasing day by day. With such a high number of restaurants. This industry hasn't been saturated yet. And new restaurants are opening every day. However it has become difficult for them to compete with already established restaurants. The key issues that continue to pose a challenge to them include high real estate costs, rising food costs, shortage of quality manpower, fragmented supply chain and over-licensing. This Zomato data aims at analysing demography of the location. Most importantly it will help new restaurants in deciding their theme, menus, cuisine, cost etc for a particular location. It also aims at finding similarity between neighbourhoods of Bengaluru on the basis of food. During this machine learning implementation we are going to see various factors affecting the rate of restaurant

Introduction

Why this Architecture Design Document ?

The main objective of the Architecture design documentation is to provide the internal logic understanding of the flight fare prediction code. The Architecture design documentation is designed in such a way that the programmer can directly code after reading each module description in the documentation.

Scope

Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. This process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the data organisation may be defined during requirement analysis and then refined during data design work

Architecture

Architecture Design

This project is designed to make an interface for the User to predict the rating of a restaurant given online_order, book_table, rate, votes, location, rest_type(restaurant type), cuisines, cost, menu_item

Data Collection

The data for this project is collected from the Kaggle Dataset, the URL for the dataset is https://www.kaggle.com/datasets/himanshupoddar/zomato-bangalore-restaurants?resource=download

Data Description

Bengaluru being one such city has more than 12,000 restaurants with restaurants serving dishes from all over the world. With each day new restaurants opening the industry hasn't been saturated yet and the demand is increasing day by day. The features which are used for analysing online_order, book_table, rate, votes, location, rest_type(restaurant type), cuisines, cost, menu_item

Importing data into database

Data Export from Database - The data in a stored database is exported as a CSV file to be used for Data Pre-processing and Model Training.

Modelling process

After preprocessing the data, We visualise our data to gain insights and then these insights are randomly spread and split into two parts, training and test data. After splitting the data, we use Extra Tree Regressor to model our data to predict the rating of restaurants .

UI Integration

Both CSS and HTML files are being created and are being integrated with the created machine learning model. All the required files are then integrated to the app.py file and tested locally

Data from User

The data from the user is retrieved from the created HTML web page.

Data Validation

The data provided by the user is then being processed by app.py file and validated. The validated data is then sent to the prepared model for the prediction of rating of restaurant.

Rendering the Results

The data sent for the prediction is then rendered to the web page

Deployment

The tested model is deployed locally on the computer.

```
[Running] python -u "c:\Users\hp\Desktop\inueron internship\4)Restraunt rating prediciton\My project\Restaurant Rating Prediction\Deploying the model\app.py"
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 128-393-651
```