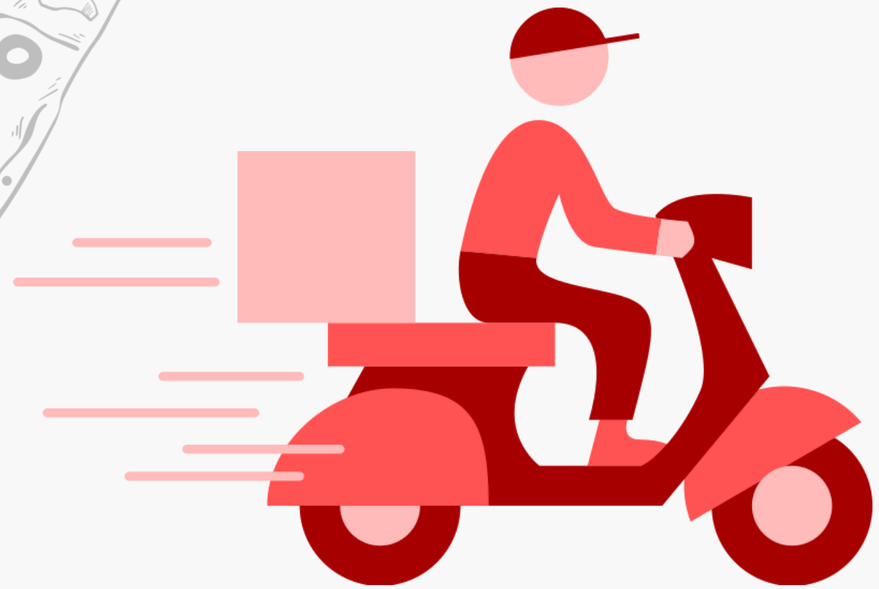
Recommendation Model for Restaurants



Team Mates

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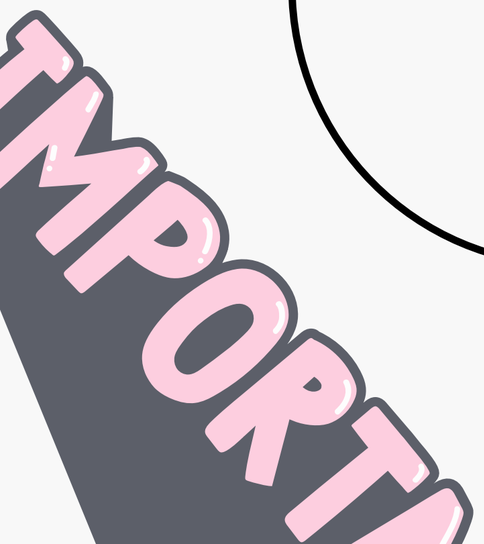
Agenda

Creating a Machine Learning Model for Price & Location Recommendation with Python



Tools & Tech Used

Python Libraries:

Jupyter Notebook
Selenium
BeautifulSoup
Pandas
Sciket-Learn
Flask
importnb

Other Tools:

Visual Studio Code
HTML
CSS
Power Bi

Outlook :

Build a recommendation model for someone who wants to open a restaurant in Bangalore.

Area Insights

1. Average price
2. Popular cuisine
3. Most popular restaurant
4. Serves
5. Popular restaurant that serves your cuisine

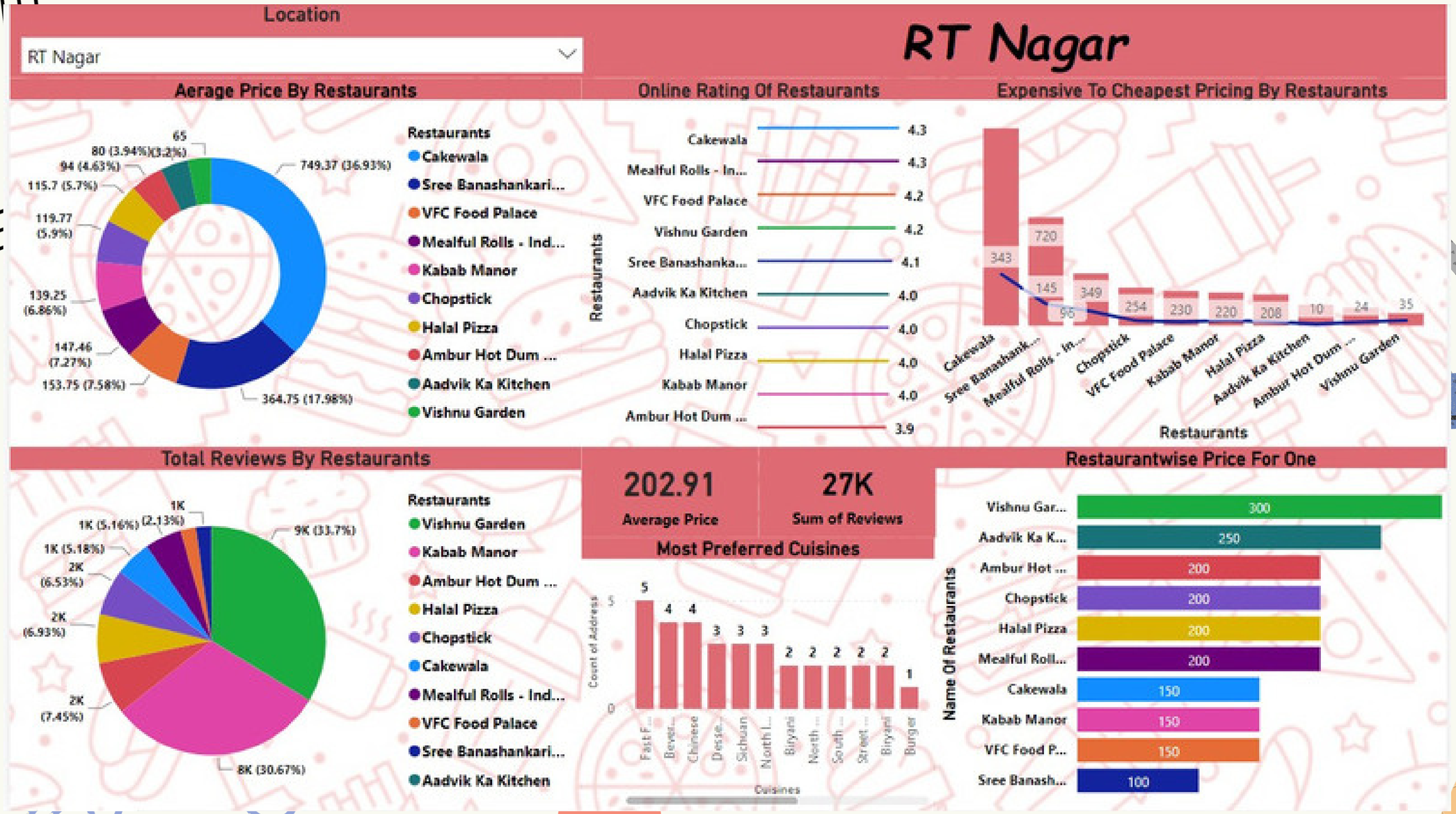
Recommendations

1. Recommended Price
2. Recommended Location

Web-Scraping Summary

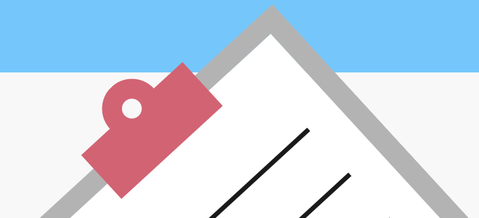
- Using Selenium and Soup, we Extracted data present on page and stored it in series and merged them to get the Dataframe.
- After obtaining the DataFrame we performed some data cleansing operation and obtained two tables.
- Then, we imported the cleaned tables into MySQL and joined them.
- After joining the tables, we imported the dataset into MS Excel in order to analyse the data and PowerBI to make a dashboard.
- After generating the dashboard, we made some insights .

Analysis Dashboard



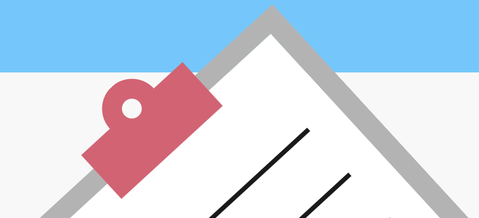
Price Prediction Model

- The Price prediction model is created on Decision Tree as the accuracy of decision tree was better than the rest.
- This model takes three parameters two of which are provided by user they are Cuisine and Location and it takes the third parameter from the insights that is the Average Price For One of that location
- All of this inputs are taken from the html landing page using flask and then is compare with pkl file and is later predicted.



Location Prediction Model

- The Location prediction model is created on Random Forest as the accuracy of the Random Forest was better than the rest.
- This model takes three parameters, two of which are provided by the user they are Cuisine and Price For One and it takes the third parameter from the insights that is the Average Price For One of that location
- All of this inputs are taken from the html landing page using flask and then is compare with pkl file and is later predicted.



Joining Python to HTML

- We connected all the Notebooks to a main Python file using a library 'importnb'
- Later when all the Notebooks were connected, we used flask to deploy the model on Web Page
- Flask was used to Get and post the data on webpag

Landing page

Prediction page.

Problems Faced

Solution

After developing the models it was difficult to call functions from different notebooks

To tackle it we installed a importnb module and also created dictionaries wherever required

The input provided by users would be in text and model uses only numeric values

So to deal with it we created a seperate dictionary and function to first get exact text value and then its encoded no.


THANK YOU FOR YOUR PATIENCE
FOR YOUR TIME
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