ZOMATO

ANALYSIS AND RATING PREDICTION

Detailed Project Review

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PROJECT DETAIL

Project title	Zomato Rating Prediction
Technology	Machine learning Technology
Domain	E-commerce
Project Difficulty level	Intermediate
Programming language used	Python
Tools Used	Jupyter Notebook, Vscode, FASTApi

OBJECTIVE

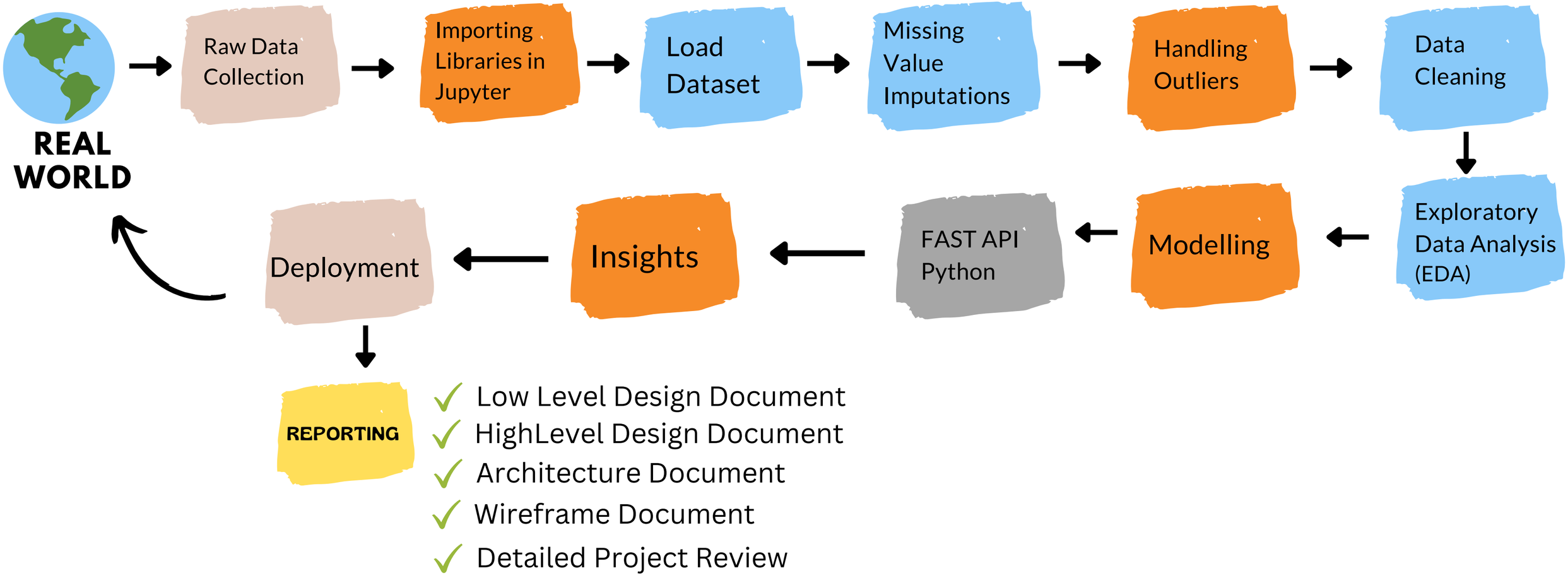
- The main goal of this project is to perform extensive Exploratory Data Analysis(EDA) on the Zomato Dataset and build an appropriate Machine Learning Model that will help various Zomato Restaurants to predict their respective Ratings based on certain features.

PROBLEM STATEMENT

- The underlying problem here is it has become difficult for non-established restaurants to compete with already established restaurants. You are required to predict the rating for their better future.

- A data is formed by taking 12,000 restaurants, serving dishes from all over the world. The data include Location of the restaurant, Theme based restaurant or not and many more things.

ARCHITECTURE



DATASET INFORMATION

URL	Contains the URL of the restaurant in the zomato website
Address	Contains the address of the restaurant in Bengaluru
Name	Contains the name of the restaurant
Online order	whether online ordering is available in the restaurant or not.
book table	Table book option available or not
location	Contains the neighborhood in which the restaurant is located.
rest type	The type of restaurant

KEY PERFORMACE

1. Percentage of People book table online or offline.
2. Location of restaurants.
3. Neighborhood in which the restaurants is listed.
4. Restaurants accepts online orders or not.
5. Most liked dish of the restaurants.
6. Cuisine of the respective restaurants.

CONCLUSION

- From the analysis, 'Onesta', 'Empire Restaurant' & 'KFC' are the most famous restaurants in bangalore.
- Most Restaurants offer options for online order and delivery.
- Most restaurants don't offer table booking.
- From the analysis, most of the ratings are within 3.5 and 4.5.
- From the analysis. we can see that most of the restaurants located in 'Koramangala 5th Block', 'BTM' & 'Indiranagar'.Then least restaurants are located 'KR Puram', 'Kanakapura', 'Magadi Road'.
- 'Casual Dining', 'Quick Bites', 'Cafe', 'Dessert Parlor' are the most common types of restaurant.And 'Food Court', 'Casual Dining', 'Dhaba' are the least common.
- From the analysis, pasta & Pizza most famous food in bangalore restaurants.
- From the analysis, we can see that North Indian Cuisines are most famous in bangalore restaurants.
- Two main service types are Delivery and Dine-out.
- From the analysis, we can see that 'Onesta', 'Truffles' & 'Empire Restaurant' are highly voted restaurants.
- For the modeling part, i used LinearRegression, DecisionTree Regressor, RandomForest Regressor , Supprotvector Regressor & ExtraTree Regressor. From all these models ExtraTree Regressor perform well compared to the other models.So i selected ExtraTree Regressor for model creation.

QNA

Q1) What's the source of data?

The Dataset were taken from kaggle Website.
https://www.kaggle.com/datasets/himanshupoddar/zomato-bangalore-restaurants

Q2) What was the type of data?

The data was the combination of numerical and Categorical values.

Q3) What's the complete flow you followed in this project?

Refer Slide 5th for better understanding.

Q4) What techniques were you using for data?

- Removing unwanted attributes.
- Visualizing relation of independent varibales with each other and output variables.
- Removing outliers
- Clearning data and imputing if null values are present.
- Converting Categorical data into Numerical data.

Q5) What were the libraries that you used in Python?

I used pandas, NumPy, Matplotlib, Seaborn and Geopy libraries in Pyhon.