PROJECT REPORT: ZOMATO DATA ANALYSIS

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1. Introduction

Project Title: Zomato Data Analysis and Visualization

Domain: Data Science & Data Visualization

Objective:

This project aims to analyze Zomato's restaurant dataset to uncover insights about restaurant types, customer preferences, voting patterns, and cost trends. Using Python libraries like Pandas, NumPy, Matplotlib, and Seaborn, we process, clean, and visualize the data to extract meaningful insights.

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2. Dataset Overview

Dataset Used: Zomato CSV Dataset

Data Attributes:

- **name** – Restaurant name

- **online_order** – Availability of online ordering (Yes/No)

- **book_table** – Availability of table booking (Yes/No)

- **rate** – Restaurant rating

- **votes** – Number of votes received

- **approx_cost(for two people)** – Estimated cost for two people

- **listed_in(type)** – Type/category of restaurant (e.g., Café, Quick Bites, Casual Dining)

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3. Tools & Technologies Used

Programming Language: Python

Libraries & Frameworks:

- **Data Handling:** Pandas, NumPy

- **Data Visualization:** Matplotlib, Seaborn

- **Sentiment Analysis (Optional):** TextBlob

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4. Data Analysis Process

Step 1: Data Import & Preprocessing

- Imported the dataset using Pandas

- Checked for missing values and handled them accordingly

- Performed exploratory data analysis (EDA) to understand the structure and distribution of data

Step 2: Data Visualization & Insights

- **Restaurant Count by Type:** Used a bar chart to visualize the count of different restaurant types.

- **Top 10 Restaurants by Votes:** Identified the most popular restaurants based on customer votes.

- **Average Cost for Two People by Restaurant Type:** Used a barplot to analyze pricing trends across different restaurant types.

Step 3: Fixing Warnings & Code Optimization

- Fixed Seaborn warnings related to palette and hue usage.

- Used tight_layout() to improve plot readability.

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5. Key Insights & Findings

- **Restaurant Preferences:** Quick Bites and Casual Dining are the most common restaurant types.

- **Customer Engagement:** Some restaurants have significantly higher votes, indicating popularity and customer trust.

- **Cost Analysis:** Certain restaurant types tend to be more expensive on average than others.

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6. Skills Gained

- **Data Handling & Processing:** Pandas, NumPy

- **Exploratory Data Analysis (EDA)**

- **Data Visualization:** Matplotlib, Seaborn

- **Statistical Analysis & Insights Extraction**

- **Problem-Solving & Debugging**

- **Python Programming Best Practices**

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7. Conclusion & Future Scope

This project successfully analyzed Zomato's restaurant dataset to gain insights into customer preferences, pricing trends, and restaurant popularity. In the future, sentiment analysis on restaurant reviews and predictive modeling for customer ratings can further enhance the analysis.

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8. References

- Official Documentation: Pandas, Seaborn

- Zomato Open Dataset