Cognifyz Technologies

Task 4: Location-Based Restaurant

ReadMe:

About the Project:

This project focuses on performing **location-based analysis** on a dataset of restaurants by utilizing geospatial data (latitude, longitude) and city-level statistics. It includes **interactive mapping** with folium and **visualizations** using matplotlib and seaborn.
This analysis helps in understanding regional trends, restaurant distribution, and average ratings per city.

Features

1. Cleans and prepares geolocation data
2. Fills missing latitude and longitude values
3. Visualizes restaurant distribution using an interactive map
4. Performs top-city analysis based on:
   - Restaurant count
   - Average rating
5. Generates bar plots for easy interpretation

Tech Stack

- **Language:** Python
- **Libraries:**
- `pandas` – Data manipulation
- `matplotlib`, `seaborn` – Data visualization
- `folium` – Geolocation mapping

Dataset

Dataset includes:

- Latitude, Longitude – For mapping
- City – For grouping and analysis
- Aggregate rating – Used to compute city-level averages
- Derived column:
- Main Cuisine: First cuisine type (e.g., 'North Indian' from 'North Indian, Chinese')

Installation

- Clone or download the .py file
- Ensure the dataset is placed in the correct path
- Install dependencies:

  pip install pandas matplotlib seaborn folium

Analysis Performed

Interactive Map

- **Displays restaurant locations using folium.CircleMarker**
- **Can be viewed in any browser by opening restaurant_map.html**

Bar Charts

- **Top Cities by Restaurant Count**
- **Top Cities by Average Rating**

Results

- The map provides a visual representation of restaurant concentration across regions.
- The top-rated cities and most restaurant-dense cities are identified and visualized.
- Helps in identifying restaurant hubs and high-quality food zones.

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