

Capstone Project - The Battle of Neighborhoods

Introduction

Toronto is Canada's largest city and a world leader in such areas as business, finance, technology, entertainment and culture. Its large population of immigrants from all over the globe has also made Toronto one of the most multicultural cities in the world.

Toronto has the largest Indo-Canadian population in Canada comprising of 10.4% (approx. 0.6 million people) Almost 51% of the entire Indo-Canadian community resides in the Greater Toronto Area. Most Indo-Canadians in the Toronto area live in Brampton, Markham, Scarborough, Etobicoke, and Mississauga. The Indo-Canadians in this region are mostly of Punjabi, Telugu, Tamil, Gujarati, Marathi, Malayalee and Goan origin. Canadian carrier Air Canada operates flights from Toronto Pearson International Airport back to India.

Also, students of Indian origin make up over 35% of Ryerson University, 30% of York University, and 20% of the University of Toronto's student bodies, respectively.

With its diverse culture, comes diverse food items. There are many restaurants in Toronto, each belonging to different categories like Chinese, Indian, French etc.

So as part of this project, we will list and visualize all major parts of Toronto that has great Indian restaurants.

Data

For this project we need the following data:

- Toronto data that contains list Boroughs, Neighborhoods along with their latitude and longitude.
 - Data source: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
 - Description: This webpage contains the required information. And we will scrape this data set to explore various neighborhoods of Toronto.
- Indian restaurants in each neighborhood of Toronto.
 - Data source: Foursquare API
 - Description: By using this API we will get all the venues in each neighborhood. We can filter these venues to get only Indian Restaurants.
- GeoSpace data
 - Data source: https://cocl.us/Geospatial_data
 - Description: By using this geo space data we will get the Toronto's Borough boundaries that will help us visualize choropleth map.

Approach

- Collect the Toronto's city data from:
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- Using Foursquare API, we will find all venues for each neighborhood.
- Filter out all venues that are Indian Restaurants.
- Find rating, tips and like count for each Indian Restaurants using Foursquare API.
- Using rating for each restaurant, we will sort that data.
- Visualize the Ranking of neighborhoods using folium library(python)

Questions that can be asked using the above-mentioned datasets

- What is best location in Toronto for Indian Cuisine?
- Which areas have potential Indian Restaurant Market?
- Which all areas lack Indian Restaurants?
- Which is the best place to stay if I prefer Indian Cuisine?

Analysis

We will import the required libraries for python.

- pandas and numpy for handling data.
- request module for using FourSquare API.
- geopy to get co-ordinates of City of New York.
- folium to visualize the results on a map