

IBM Applied Data Science Capstone

Capstone Project

The Battle of Neighborhoods - Week I

Opening an Indian Restaurant in Toronto

By: Vaishali Ujlayan



Introduction:

Canada contains the world's eighth largest Indian diaspora. The highest concentrations of Indian Canadians are found in the provinces of Ontario and British Columbia, followed by growing communities in Alberta and Quebec as well, with the majority of them being foreign-born.

The demographics of Toronto, Ontario, Canada make Toronto one of the most multicultural and multiracial cities in the world. In 2016, 51.5% of the residents of the city proper belonged to a visible minority group, compared with 49.1% in 2011, and 13.6% in 1981. Toronto also has established ethnic neighbourhoods such as the multiple Chinatowns, Corso Italia, Little Italy, Little India, Greektown, Koreatown, Little Jamaica, Little Portugal and Roncesvalles, which celebrate the city's multiculturalism.

As people all over the world are liking Indian cuisine, so why not explore some of the best locations for Indian restaurants throughout Toronto. Potentially, the owner of the new Indian restaurant can have great success and huge profit. However, as for starting off a new business, one must be aware of the consequences if things are not implemented strategically or whether or not the business will be profitable. So, a few points should be considered for opening a new business. In our case, an Indian restaurant. Thus, the main idea behind for the attempt of this project is to answer a few questions such as -" Where should the investor invest to open an Indian restaurant?" and "Where should I go if I want to experience great Indian cuisines?"

Objective:

The main objective of this project is to analyse and select the best locations in Toronto to open a new Indian restaurant. Using Data Science methodology and tools such as data analysis and visualization, this project aims to provide solutions to answer the above-mentioned business requirements.

This project can be useful for the investors looking to open an Indian restaurant, targeting the multicultural population in Toronto.

Target Audience:

This project is particularly beneficial for the investors & constructors looking forward to invest in opening an Indian restaurant in Toronto. It is a great place to open an Indian restaurant providing ethnic Indian cuisines, because the city has a significant Indian population. And people from around the world travel to India to experience Indian flavours. So, why not provide the citizens of Toronto with such facilities i.e., by opening an Indian restaurant in foreign place, in their home country?

Data:

To start off with the above-mentioned problem statement, the following data will be required:

- Toronto city data having features as postal code, neighbourhoods, boroughs.
- Geo coordinates for the cities present in the above-mentioned data.
- Venue data for restaurants for further analysis and visualization.

Data description:

- Toronto city data will be fetched using web scraping from an open data source.
- Furthermore, feature engineering will be performed to keep the data in a particular format for easy data analysis and visualization.
- Geocoding of city data will be performed using geocoder library in Python.
- Venue data will be fetched using Foursquare API, as it provides the data for many categories. In our case, it is for Indian restaurants.

The project will require many data science skills from web scraping, working with API, data cleaning, data wrangling, data engineering to data visualisation.

The next part of the project will elaborate other data science, statistical and machine learning techniques used.