Machine Learning location evaluation to start an Italian Restaurant in Toronto

1.Introduction

1.1 Background

For this Capstone project, the hypothetical scenario is represented by an Italian who wants to explore opening opportunity of an authentic Italian restaurant in Toronto area.

The idea behind this project is that there may not be enough Italian restaurants in Toronto. Let's say Italian food is similar to other European cuisines: this Italian person might think to open his restaurant in locations where European food is popular (in other words, having many European restaurants in the neighborhood).

With this aim, find the right location to open such a restaurant is one of the most important decisions for this Italian person, and with this project I would like to help him find the most suitable location.

1.2 Business Problem

The objective of this capstone project is to find the most suitable location for the Italian person to open a new Italian restaurant in Toronto, Canada. The question data science methods and machine learning methods such as clustering can help us to have a solution is: in Toronto, if anyone wants to open an Italian restaurant, where should he consider opening it?

1.3 Target Audience

The Italian person who wants to find the best location to open authentic Italian restaurant.

2.Data

To solve this problem, we need the below list of data:

- List of neighborhoods in Toronto, Canada.
- Latitude and Longitude of these neighborhoods.
- Venues data related to European restaurants: this will help us find the neighborhoods that are most suitable to open an Italian restaurant.

3. Extracting Data

- Scraping of Toronto neighborhoods via Wikipedia.
- Getting Latitude and Longitude data of these neighborhoods via Geocoder package.
- Using Foursquare API to get venue data related to these neighborhoods.

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(https://github.com/olegna1984/Coursera_Capstone)

(https://github.com/olegna1984/Coursera_Capstone/blob/master/Battle%20of%20neighborhoods%20week%201.ipynb)