Using Machine Learning to find the location to open a Filipino restaurant in Toronto

1. Introduction

1.1. Background

For this project, I am using a hypothetical situation where a Filipino restaurant owner wants to open a new Filipino restaurant in the Toronto area. The idea behind this scenario is that there may not be enough Filipino restaurants in Toronto and presents an excellent opportunity for an entrepreneur based in Canada. Filipino food is similar to other Asian cuisines the entrepreneur in thinking of opening restaurant in locations where other Asian food is popular. Therefore, finding the location is one of the most important decisions for the client and data science methodology leveraged with geographical data is one of the most effective methods to make such a decision.

1.2. Business Problem

The objective of this project is to find the most suitable location for an entrepenuer to open a new Filipino restaurant in Toronto, Canada. By using data science and machine learning methods such as clustering combined with geographical location data from Foursquare this project aims to provide solutions to the business problem; where is the best potential location for the opening of a Filipino restaurant in the city of Toronto, Canada?

1.3. Target Audience

The entrepreneur who wants to find the location to open a new Filipino restaurant

2. Data

To solve the business problem, the following data will be required:

- A list of neighbourhoods in Toronto, Canada
- The geographical location in latitude and longitude of these neighbourhoods
- Venue data related to Asian cuisine restaurants in the city of Toronto, Canada. This will allow us to find the neighbourhoods most suitable to open a new Filipino Restaurants.

To fulfil the requirements of the data that will be required to implement the solution:

- A list of Toronto neighbourhoods scraped from Wikipedia
- Getting Latitude and Longitude information for the neighbourhoods through the geocoder package
- Using the Foursquare API to get the venue data related to all the neighbourhoods scraped from the Wikipedia list.