

Opening a Chinese restaurant in Toronto

1. Introduction

1.1 Problem Description and Background

In this project, we will focus on the discussion of starting a business in a city, more specifically, opening a Chinese restaurant in Toronto. It is not an easy decision for a business man who is not very familiar with the city. Usually, we need to consider the following factors at least when opening a restaurant:

- Location: where to open the restaurant? We have to investigate the distribution of restaurants in a city. Usually, it is good place to open a new restaurant close to a group of restaurants, as there are already a large flow of people coming to eat there every day, but the competition may also be a challenge, so we need to have differentiation in restaurant style.
- Style of restaurant: it depends on what kind of restaurant we are good at. Let's choose Chinese restaurant in this project.
- Return of investment: this is a quite complicated problem, we need to know the investment of renting a house, hiring people, etc. as well as a prediction of revenue/profit based on the revenue/profit data of other restaurants. As we don't have the data, we won't cover this part in this project.

In a nutshell, the problem we will address in this project is where is a good place to open a Chinese restaurant in Toronto. I think most people who are planning to start a restaurant business in Toronto would have interest to this analysis.

1.2 Data Description

The data I will use for the analysis includes:

- a Wikipedia page https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M that has all the information we need to explore and cluster the postal codes, boroughs and neighborhoods in Toronto. We will scrape the Wikipedia page and wrangle the data, clean it, and then read it into a *pandas* dataframe.
- a csv file that has the geographical coordinates of each postal code of Toronto city: http://cocl.us/Geospatial_data
- Foursquare API to get the most common venues of given neighborhoods of Toronto city.

Based on the venue data, I can pull out the restaurant information in each neighborhood of Toronto, then make statistics how many restaurants in each neighborhood and the style of

each restaurant. I think the good place to open Chinese restaurant is the neighborhood with most restaurants but very few Chinese restaurant.