

# IBM APPLIED DATA SCIENCE CAPSTONE

APPROPRIATE LOCATIONS TO OPEN A NEW RESTAURANT IN NEW YORK, USA

## INTRODUCTION

The demand on restaurants and good food are increasing, not only due to the number of populations that have been increased in the past 5 years. However, it becomes a part of breaking the routine of always eating food at home or bringing special guests for dinner at home. Restaurants usually have various types of dishes that match different tastes, and given the fact of a very good reputable restaurant you would never think twice to bring your special guests or even hold a business dinner out there. But, where should you, as an investor, consider opening a new restaurant? What are the factors you should consider when making this decision? The answer would really depend on how would you position yourself among competitors.

## BUSSINESS PROBLEM

So, this project aims to study the best place for a new investor to open up his or her restaurant. We will assume that this restaurant targets specific segment of customers, mainly those who are planning to host their guests at a very high quality and reputable food with different dishes. It is not about the number of populations in the nearby! It's about making sure that the investor will open the restaurant in a high-income area, a very well paved infrastructure and a very close to one of the big famous restaurants. You would be wondering, why to take a risk and open a restaurant next to a very well know and high-quality restaurant? The answer is simple, but first have you asked yourself why KFC and Popeye's restaurants are always close to each other? Take it easy, these restaurants are not owned by the same owner or group. It's about the strategy, Popeye's strategy is to open a restaurant that is always nearby the KFC, they are taking the bargaining power of KFC customers, that is their audience and this is their strategy! You like KFC, but you will give yourself an opportunity to try another brand if you, for example, liked its teaser! We will advice the investor to open his restaurant next to one of the other famous restaurants, we start by positioning this new investor among these tops! And yes, we will spend on the marketing ads, plan to expand, pricing schema, dishes and most importantly on the weakness and threats of the competitors.

## TARGET AUDIENCE

This project aims to help new investor to select the right location of a new very well reputable restaurant.

## DATA

- List of neighborhoods in N.Y, USA
- Latitude and longitude coordinates of those neighborhoods, in order to plot the map
- Data related to highly reviewed restaurants in a highly income area, in order to perform clustering on the neighborhoods

First, we extract the neighborhoods in N.Y, using web scraping as we did in Week #3. Then, we use the Geocoder library to extract the coordinates of each neighborhood. Then, we use the Foursquare API to get the venue data for each of the neighborhoods. It provides us with a lot of venues, but we are interested in specific restaurants category, to solve our problem. We also make use of machine learning techniques, such as K means clustering and map visualization using Folium.