**Capstone Project - The Battle of Neighborhoods – week II**
**Let's find good Turkish food**
**Lets' find I can open my restaurant (clustering and segmentation)**

## Introduction

I chose New York City because of two things. First, the data of this city can be very easy collected and the second New York City is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2014, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States.

Throughout its history, New York City has been a major point of entry for immigrants; the term "melting pot" was coined to describe densely populated immigrant neighborhoods on the Lower East Side. As many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. English remains the most widely spoken language, although there are areas in the outer boroughs in which up to 25% of people speak English as an alternate language, and/or have limited or no English language fluency. English is least spoken in neighborhoods such as Flushing, Sunset Park, and Corona.

Diversity of population in the City generated different needs and services especially when it comes to food. Due to this, there are many restaurants in New York City, each belonging to different categories like Turkish, Chinese, Turkish, French, etc. The main aim of my project is to find, estimate and visualize all major parts of New York City that has good Turkish restaurants. It can be useful to future owners of the restaurants for finding potentially good area in order to open a new one.

## Data

For this project we need the following data:

- New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude.
  - Data source: https://cocl.us/new_york_dataset
  - Description: This data set contains the required information. And we will use this data set to explore various neighborhoods of New York City.
- Turkish restaurants in each neighborhood of New York City.
  - Data source: Foursquare API
  - Description: By using this API we will get all the venues in each neighborhood. We can filter these venues to get only Turkish restaurants.

## Methodology

- Collect the New York City data from https://cocl.us/new_york_dataset
- Using Foursquare API we will find all venues for each neighborhood.
- Filter out all venues that are Turkish restaurants.
- Find ratings, tips and like count for each Turkish restaurant using Foursquare API.
- Using rating for each restaurant, we will sort that data.
- Visualize the Ranking of neighborhoods using folium library(python)

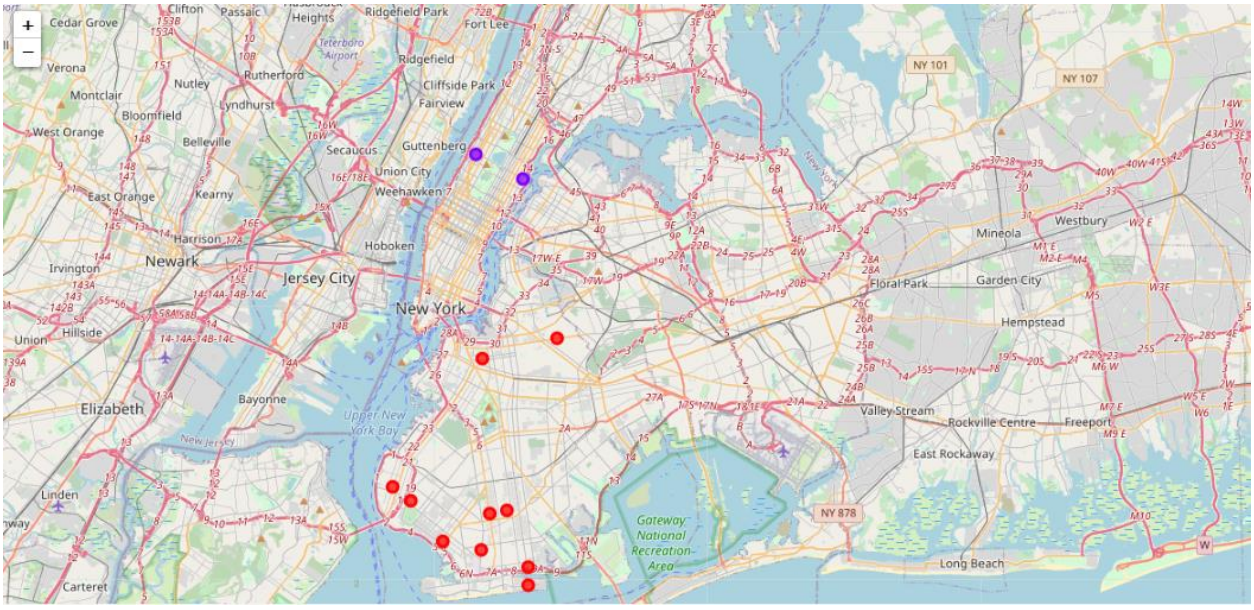
- Find culstering where I can open a new resaurant

**Questions that can be asked using the above mentioned datasets**

- What is best location in New York City for Turkish cuisine?
- Which areas have potential Turkish restaurant Market?
- Which all areas lack Turkish restaurants?
- Which is the best place to stay if I prefer Turkish cuisine?

**Results and analysis**

- There are restaurants of Turkish cuisine.in Brooklyn and Manhattan
- In Brooklyn there are a many of them
- But in Manhattan there is a room for opening ones




**Discussion section**

For opening a new restaurant someone should analyze competition in the neighborhood. Here is one analysis of potential area in order to open good Turkish restaurant. First of all, we find average ratings of neighbor's restaurants and places where are settled in. After clustering of data we can notice where are the places which are the best for starting a new business.

**Conclusion**

This is the program for data analyzing of location Turkish restaurants and finding places where someone can open a new one.