

Optimal Location for a Restaurant

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Introduction

In this project I will try to find an optimal location for a restaurant. In this case we will focus on a restaurant and a school in New York (United States of America).

Many locations are crowded with restaurants in NY so we will try to be aware of places not so crowded. We want to cluster information about the Center Queens, so we have to analyze the cluster and the distribution of the restaurant type in each cluster.

With the help of data science we will try to find location and restaurant type that best fits.

Data Acquisition and Cleaning

These are the factors that will influence our decision:

- Number of existing restaurants in the neighborhood
- Number of and distant to Italian restaurants in the neighborhood
- Distance of neighborhood from city center
- Number of schools in the neighborhood

Our packages will be:

- Pandas
- Numpy
- Json
- Geopy
- Matplotlib
- Shapely
- Pyproj
- Sklearn

- Folium
- Requests

Methodology

Using API we will create the data Flow and then extract the schools and restaurants information.

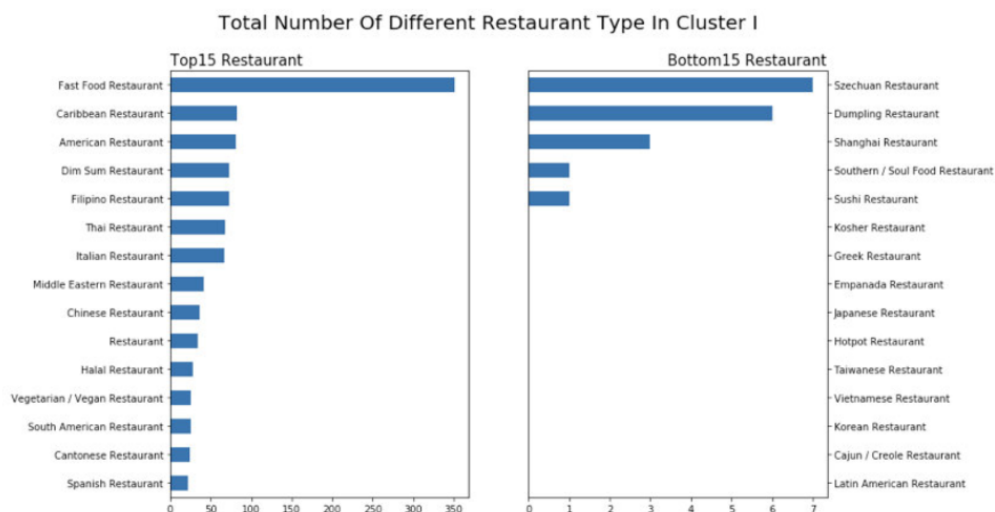
After this extraction we will explore the data using the PCA method to reduce dimensions and analyze the two main components KDE informatio.Finally, we use the KMeans method and Silhoutte metric to create the cluster.

Result and Conclusion

Exploring the cluster information we will get the first conclusión,

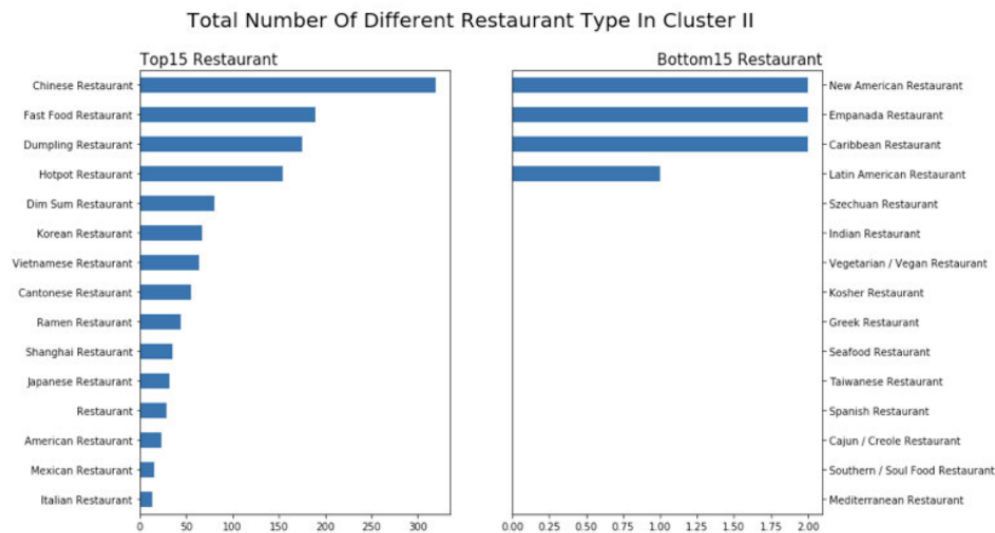
Cluster 1 Candidate Location

- Fast restaurant is main type
- Western restaurants have the largest market
- Esastern restaurants have the few market



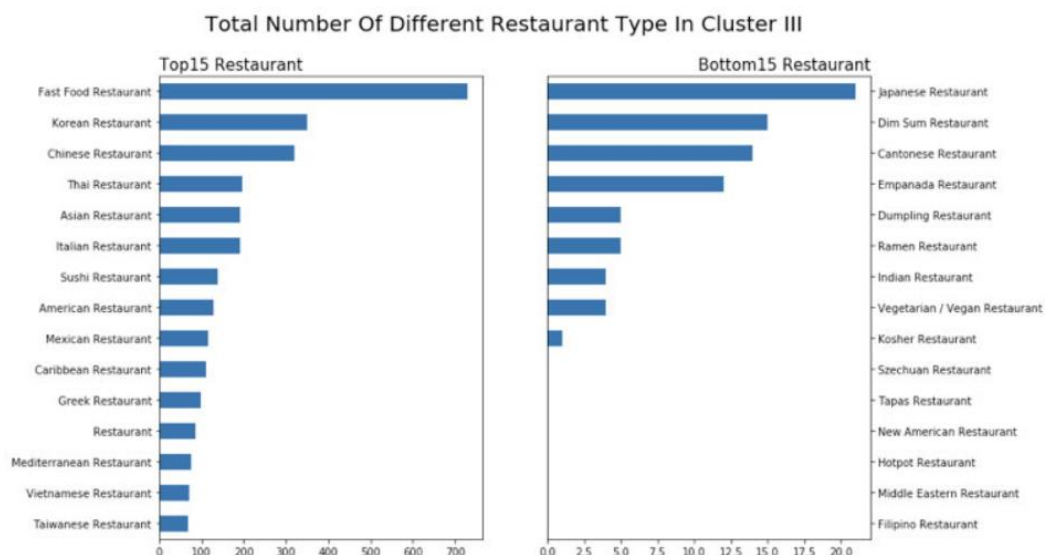
Cluster 2 Candidate Location

- Chinese restaurant is main tyoe
- Asian restarurants have the largest market.
- Western restaurants have few market



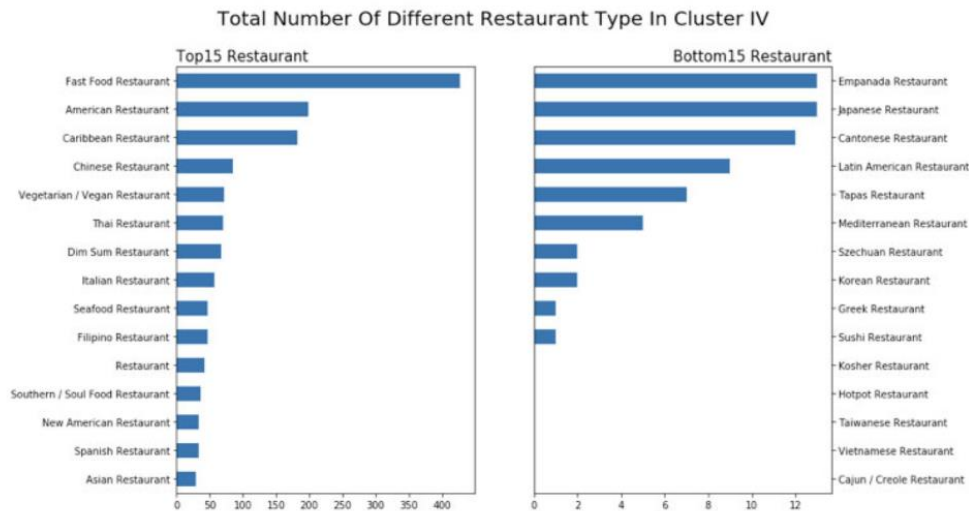
Cluster 3 Candidate Location

- Fast fodd restaurant is main type
- The candidate location has mixture restaurant type.
- The candidate location is a Good choice to open an asian restaurant.



Cluster 4 Candidate Location

- Fast food restaurant is main type
- The candidate location has a mixture restaurant type
- Asian and western restaurants are same important type.



Final Conclusion

Based on the things we have seen we could say that it is possible to find the appropriate restaurant type at appropriate candidate location.