

# Optimum location for an Italian Restaurant in Toronto, Canada

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# Introduction:

- For this Capstone Final Project, I am creating a hypothetical scenario in which an entrepreneur wants to open an Italian restaurant in Toronto. The main idea behind this approach is that this entrepreneur wants to open his restaurant in an area where there are Italian cuisine is popular so it will be easy to attract customers in that particular area and the restaurant will have a higher probability of success. With this goal in the mind this project has been designed to satisfy the need of the entrepreneur to upmost extent by finding the most suitable location for him to open his restaurant.

# Business Problem:

- ▶ The main objective of this capstone project is find the most suitable location by using the techniques and skill acquired from the course such as machine learning, data visualization and data analyzing, fulfilling the aim of this project to provide an answer to the business question: In Toronto , if an entrepreneur wants to open an Italian restaurant, what would be the ideal location?

# Data:

To solve this problem, following data will be required.

- ▶ Lists of neighborhoods in Toronto, Canada.
- ▶ Latitude and Longitude of these neighborhoods.
- ▶ Venue data related to Italian Restaurants.

# Data Extraction:

- ▶ Scrapping of Toronto Neighborhoods via Wikipedia.
- ▶ Getting the latitude and longitude of these neighborhood using geopy package.
- ▶ Getting the latitude and longitude of the venues using foursquare api.



# Methodology:

- ▶ Extracting list of neighborhoods from Wikipedia.
- ▶ Scrapping the web using pandas html table scrapping method.
- ▶ Getting the coordinates for these neighborhood using the file provided by courser.
- ▶ Using Foursquare api to get the venues in these neighborhoods and their details.
- ▶ Visualizing the result using Folium library.
- ▶ Using K-means to cluster the venues for better recommendations.

# Result:

The result from K-means clustering shows that we can categorize Toronto neighborhood into 4 clusters.

- ▶ Cluster 1: neighborhoods with very little number of Italian Restaurants.
- ▶ Cluster 2: Neighborhoods with little to no Italian Restaurants.
- ▶ Cluster 3: Neighborhoods with a large number of Italian Restaurants.
- ▶ Cluster 4: Neighborhoods with also large number of Italian Restaurants.

# Recommendations:

Most of Italian restaurants are in Cluster 1, 3 and 4 which is around India bazaar, Riverdale, Central Bay Street and University of Toronto. There are little to no restaurants in Cluster 2. So cluster 2 holds the greatest potential for an Italian restaurant to succeed. So the area around North Toronto West, Richmond, North Midtown and Regent Park are good places for the entrepreneur to open his Italian Restaurant and have a higher chance of success due to little to zero competition. Nonetheless, if the food is authentic, affordable and good taste, I am confident that it will have great following everywhere.