



Applied Data Science Capstone

Opening a New Italian Restaurant in Chicago, Illinois



Introduction

- Chicago, Illinois, is the largest metro area in the Midwest.
- Presents a great opportunity to build a new business or restaurant.
- For this project, I'll be exploring where the best area would be to start a Italian restaurant in the city of Chicago.
- Key variables to consider:
 - 1. Which areas show a demand for Italian restaurants?
 - 2. What neighborhoods are in locations that can attract customers?



Business Description/Problem

- Which neighborhoods in Chicago, Illinois presents the best location to open a new Italian Restaurant?
- A sustainable restaurant brings benefits for both entrepreneurs financially and for consumers to fit the demand for Italian restaurant choices.
- Target Audience= Entrepreneurs looking to start a new Italian restaurant or current Italian restaurant owners looking to relocate in the city of Chicago.



Data Description

- List of neighborhoods in Chicago from the Wikipedia page(https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Chicago)
- Longitude and Latitude values for each neighborhood (via Python Geocoder package)
- Venue data including venue names and geographical coordinates (From Foursquare API location data)

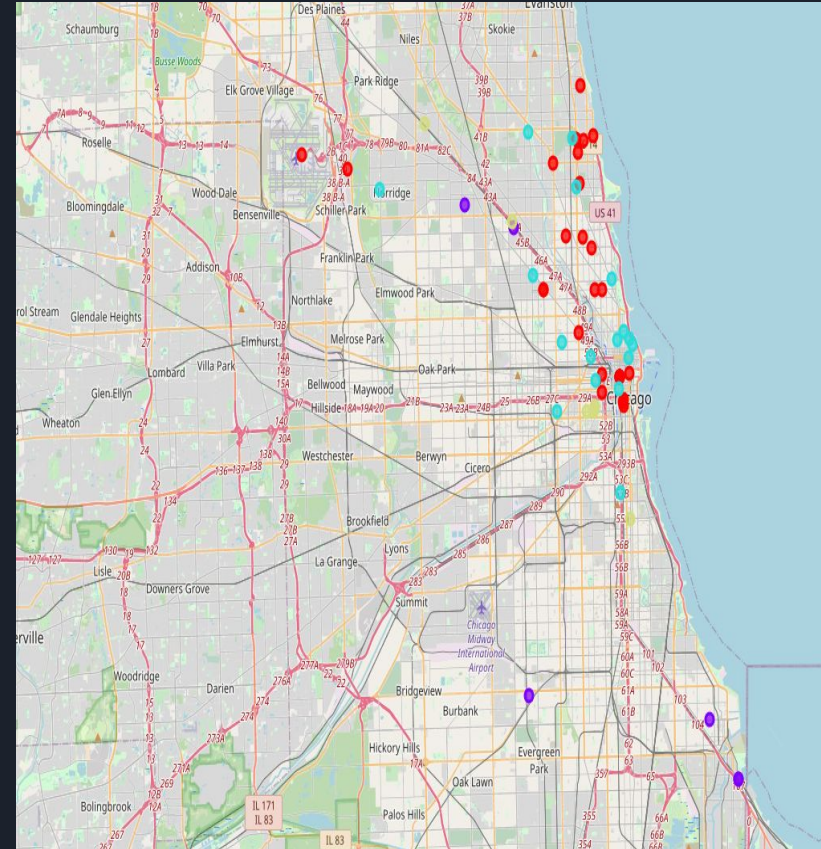


Methodology

- Scrape the list of neighborhoods from the wikipedia page and convert the list to a dataframe
- Find the longitude and latitude values for each neighborhood using geocoder.
- Find venue data using Foursquare API
- Clean the data and find what neighborhoods have a demand for Italian restaurants.
- Cluster the data using K-means clustering.
- Create a folium map to visualize the clusters in Chicago.
- Analyze each cluster individually.

Results

- Cluster 0 (Red)
 - Low number of Italian restaurants.
- Cluster 1 (Purple)
 - High number of Italian restaurants.
- Cluster 2 (Blue)
 - Extremely low number of Italian restaurants.
- Cluster 3 (Light Green)
 - Moderate number of Italian restaurants.





Discussion

- Neighborhoods within Clusters 0 and 2 wouldn't be ideal to locations to build a new restaurant.
 - Likely low demand for Italian food.
- Majority of Italian restaurants in Chicago, Illinois are in clusters 1 and 3.
 - Shows higher demand for Italian food within the neighborhoods in these clusters.
 - Likely more consumers.



Recommendation

- Neighborhoods within Cluster 3 would be the most ideal areas to start a new restaurant.
 - Three of the six neighborhoods in cluster 3 lie between Illinois Medical District and University of Illinois at Chicago.
 - Prime area to attract customers from different demographics.
 - Relatively high demand for Italian food.
 - Not as competitive for customers as cluster 1.



Conclusion

- From analysing the results of the project, key observations were made to help answer the original business question.
- Neighborhoods within cluster 3 would be the best options to build a new Italian restaurant in the city of Chicago.
 - Most likely to attract customers.
 - Highest potential of financial sustainability.