



CAPSTONE PROJECT

IBM APPLIED DATA SCIENTIST CAPSTONE

Opening a new Fast Food Restaurant in Greater Helsinki area

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BUSINESS PROBLEM

- Location is an important impact that will determine whether the business can survive or not.
- Objective: To analyze and select suitable locations in Greater Helsinki to open a fast food restaurant.

DATA

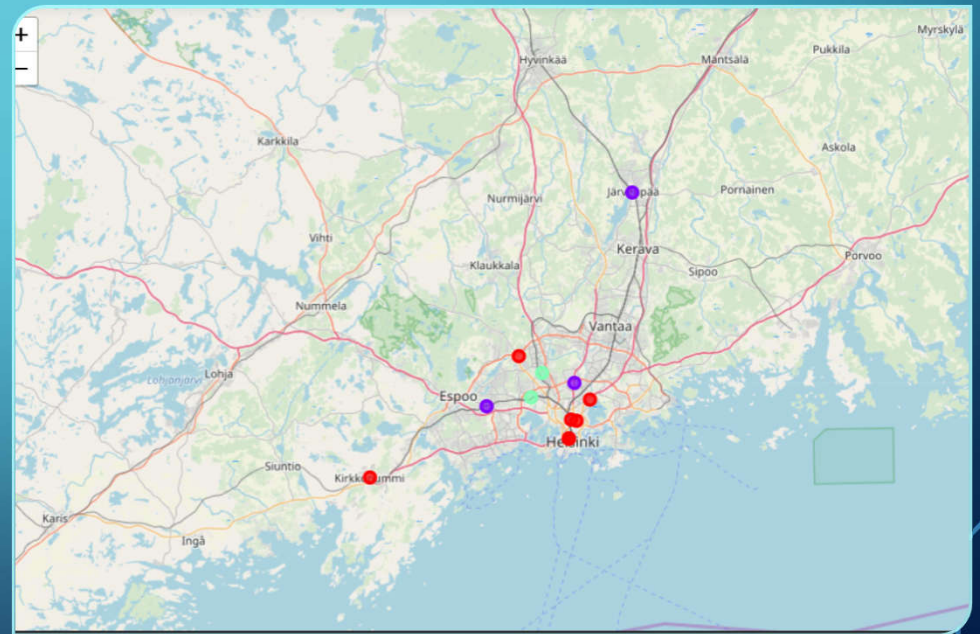
- Data required
 - List of neighborhood in area
 - Latitude & longitude of the neighborhood
 - Venue data, specify data of restaurant
- Sources of data
 - Wikipedia: https://en.wikipedia.org/wiki/Greater_Helsinki
 - Geocoder package for latitude & longitude
 - Foursquare API for venue data

METHODOLOGY

- Web scraping to get neighborhood list
- Get latitude & longitude using Geocoder
- Using Foursquare to get venue data
- Group data in neighborhood and take the mean of frequency of occurrence of each venue category
- Filter venue category by Fast Food Restaurant
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

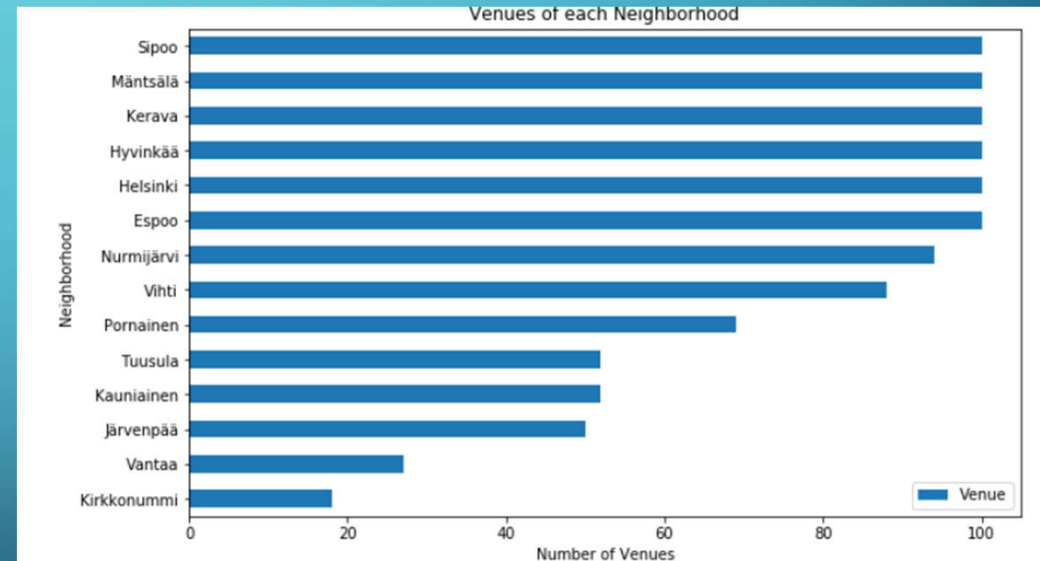
RESULTS

- Categorized into 3 clusters:
 - Cluster 0: Neighborhoods with low number to no existence of fast food restaurants.
 - Cluster 1: Neighborhoods with high concentration of fast food restaurants.
 - Cluster 2: Neighborhoods with moderate number of fast food restaurants.



DISCUSSION

- Most of venue are concentrated in the big neighborhoods or central of area.



DISCUSSION

- However, the highest concentration of fast food restaurant (Cluster 1) is not in central area, they locate in the neighborhoods near central but not too far away.
- In contrast, there are few or not existence fast food restaurant in Cluster 0. It is surprised that the area of cluster 0 has many other venues like shopping mail, another kind of restaurant.

RECOMMENDATIONS

- Open new fast food restaurant in neighborhoods of cluster 0 and cluster 2 because there are fewer competition compared with neighborhoods in cluster 1.



THANK YOU!