Opening a Restaurant in Miami

Applied Data Science Capstone by IBM/Coursera

Business Problem section

Background

Data section

Target Audience¶

Methodology section¶

Target Audience

Business investors who wants to invest or open a restaurant.

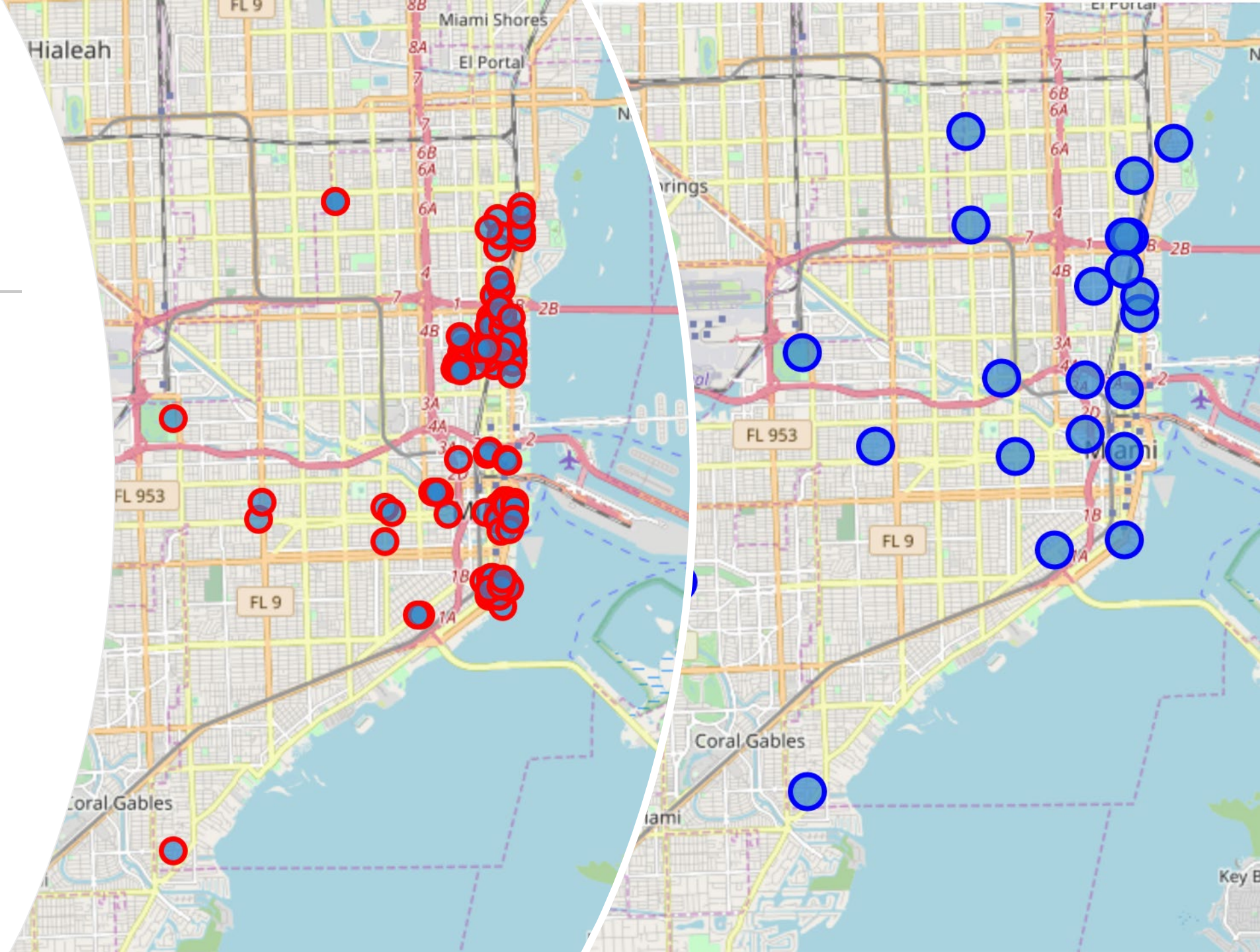
Budding Entrepreneurs who want to open a profitable restaurant business.

Methodology section

- The Methodology section will describe the main components of our analysis and Modelling system.
- Collect Inspection Data
- Explore, Obtain and Understand Data using FourSquare API
- Data Visualization and Some Simple Statistical Analysis
- Modeling Using Clustering, Specially K-Means Clustering.
- Inference From these Results and related Conclusions.

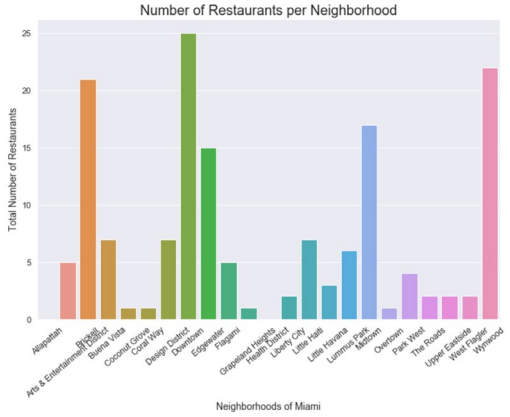
Venues Vs Neighborhoods

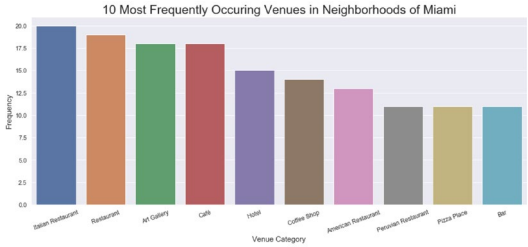
- The Data is collected from Wikipedia by web scraping using Beautiful Soup library. The data includes Neighborhoods, Population, sub-neighborhoods, co-ordinates
- Foursquare API to get venues in each neighborhood.

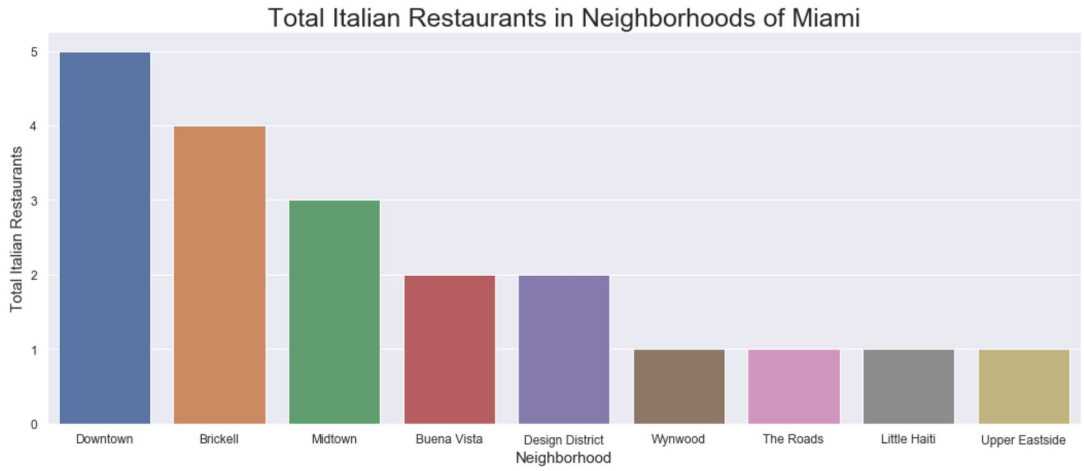


Restaurants analysis

- Restaurants are most frequently visited venues and Italian restaurants are the number 1 most visited venue according to the data
- Downtown has most number of italian restaurants with a total of 5 followed by brickwell and midtown.

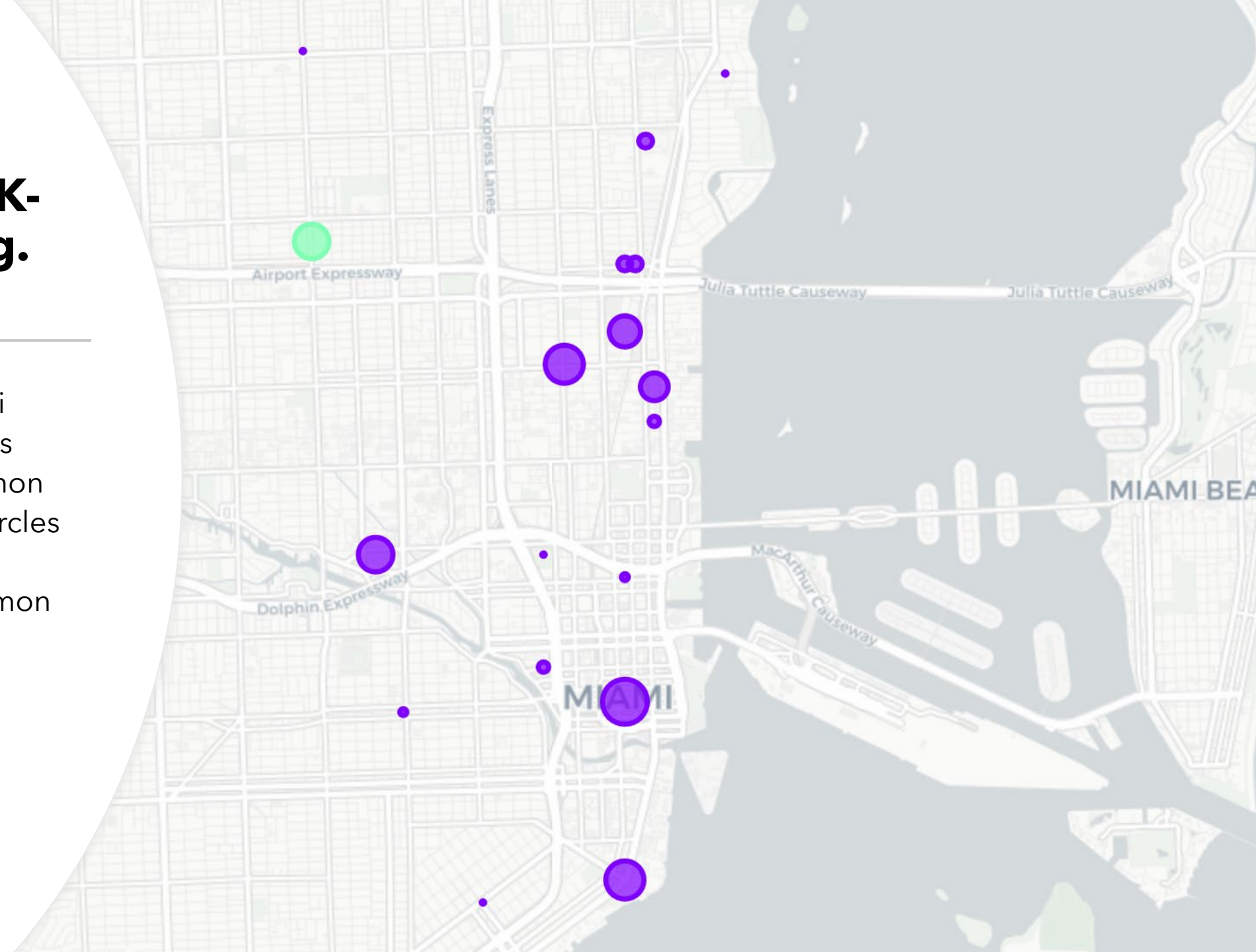






Modeling Using K-Means Clustering.

- Neighborhoods of Miami segmented into 3 clusters based on the most common venues. The size of the circles represents number of restaurants as most common venues for each neighborhood.



Results

- continental cuisine restaurants top the charts of most common venues in the neighborhoods.
- Downtown, Midtown and brickell neighborhoods are dominated by restaurants with italian restaurants being most coommon venue whereas overtown and wynwood are dominated by bars, theatre, and cafe as most common venues.
- Downtown has maximum number of restaurants as the most common venue whereas has grapeheights area has the none.
- Since the clustering was based only on the most common venues of each district, Allapatah fall under one cluster and coconut grove fall under another cluster. since rest of the neighborhoods has most common venues, they fall under one cluster.

CONCLUSIONS:

- We got a wonderful exposure of how real-life data-science projects look like.
- We have explored various methods and used libraries like Beautiful soup for web scraping and Foursquare API in obtaining neighborhoods of Miami and used Folium leaflet map to visualize neighborhoods.
- We have drawn few potential results using the data for an ideal location in opening a restaurant. Explored the areas of improvement.

Thank You