Coursera
IBM Applied Data Science

Capstone Project

"Opening a new Restaurant in Kuala Lumpur, Malaysia"

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Business Problem

▶ Selection of location for setting up a new restaurant is one of the most important decision which will determine whether it will be a success or a failure.

▶ <u>Objective</u>:

To analyze and select the best locations in Kuala Lumpur, Malaysia to open a new restaurant while facing little competition as possible.

▶ <u>Target Audience</u>:

This report is intended for investors and businessmen looking to open restaurants while selecting a strategic location.

Data

▶ Data required to perform the analysis:

- List of neighborhoods in Kuala Lumpur

- Latitude and Longitude coordinates of those neighborhoods

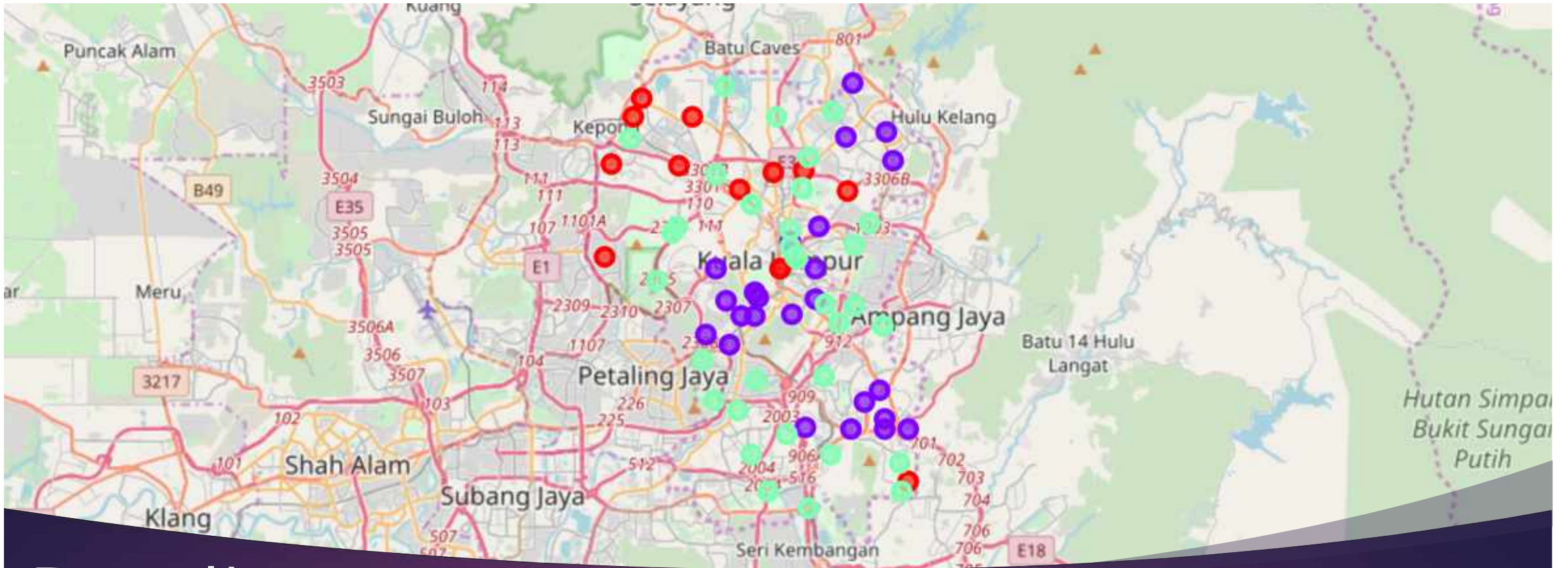- Venue data - particularly related to restaurants.

▶ Data Source:

- Wikipedia page for Neighborhoods:
  https://en.wikipedia.org/wiki/Category:Suburbs_in_Kuala_Lumpur

▶ Packages Used:

- BeautifulSoup Package for web scrapping.

- Python Geocoder Package for obtaining latitude and longitude coordinates.

- Foursquare API for venue data.

Methodology

▶ Web scrapping Wikipedia page to obtain neighborhoods list.

▶ Getting latitude and longitude coordinates using Geocoder package.

▶ Using Foursquare API to get the venue data.

▶ Grouping the data by neighborhood and taking the mean of the frequency of each venue category.

▶ Filtering resulting venue category by restaurants.

▶ Performing clustering on the data by using k-means clustering.

▶ Visualizing the clusters in a map using Folium.

Result

The results from the k-means clustering shows that we can categorize the neighborhoods into 3 clusters:

Cluster 0 (Red Color) – Neighborhood having less number of restaurants.

Cluster 1 (Purple color) - Neighborhood having moderate number of restaurants.

Cluster 2 (Mint color) - Neighborhood having large number of restaurants.

Discussion

▶ Cluster 0 is having good potential to open new restaurant as there is very little competition from the existing ones.

▶ Restaurants in cluster 2 are facing intense competition due to large number of options available to people.

▶ As there are moderate number of restaurants in cluster 1, investor can open a new restaurant in that area if they are planning to offer a unique cuisine.

Recommendation

▶ It is recommended to open a new restaurant in cluster 0 as there is very little competition.

▶ It is recommended to open a new restaurant in cluster 1 only if it will offer a unique cuisine to its customers.

▶ It is not recommended to consider cluster 2 as already large number of restaurants are present in that area.

Conclusion

The neighborhoods in cluster 0 are the most preferred locations to open a new restaurant.