Coursera Capstone
IBM Applied Data Science Capstone

Analyze the restaurants in Ayutthaya province to invite foreign tourists

Business Problem

- The objective of this capstone project is to analyze the most popular restaurant to invite foreign tourist who travel in Ayutthaya, Thailand by using data science methodology

- Aims to provide the solution for instructive entrepreneur who give emphasize only Phra Nakhon Si Ayutthaya district

- If the foreign tourism need to find which neighborhood has most popular restaurant, how did you invite those tourism to find out the most popular restaurant in that neighborhood?

Data

- List of neighborhoods in Ayutthaya Province
- Latitude and Longitude coordinates of neighborhoods.
- Venue data, we use this data to clustering on the neighborhoods.
- Geospatial map to coordinate the restaurant in Ayutthaya district.

Sources of data

    - Wikipedia page (https://en.wikipedia.org/wiki/Phra_Nakhon_Si_Ayutthaya_Province)

    - Geocoder package for latitude and longitude coordinates

    - Foursquare API

Methodology

○ Scrapping website from Wikipedia page with neighborhoods list

○ Get the geographical coordinates in form of latitude and longitude in order to able by using Foursquare API

○ Use Foursquare API to get venue data

○ Group data by neighborhood and taking the mean of frequency on each venue category.

○ Filter venue category by Restaurant

○ Clustering on the neighborhood data by using k-mean clustering

○ Visualize the clusters in a map using Folium

Results

- Categorized the neighborhoods into 3 clusters:
  - Cluster 0: Neighborhoods with high concentration of Restaurant
  - Cluster 1: Neighborhoods with moderate number of Restaurant
  - Cluster 2: Neighborhoods with low number of Restaurant
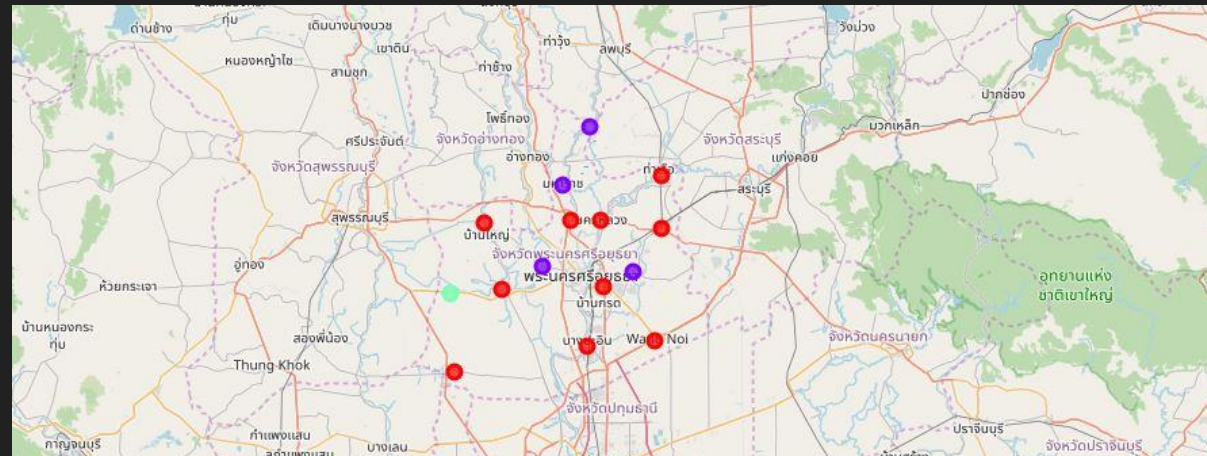
Result – Map and Cluster label
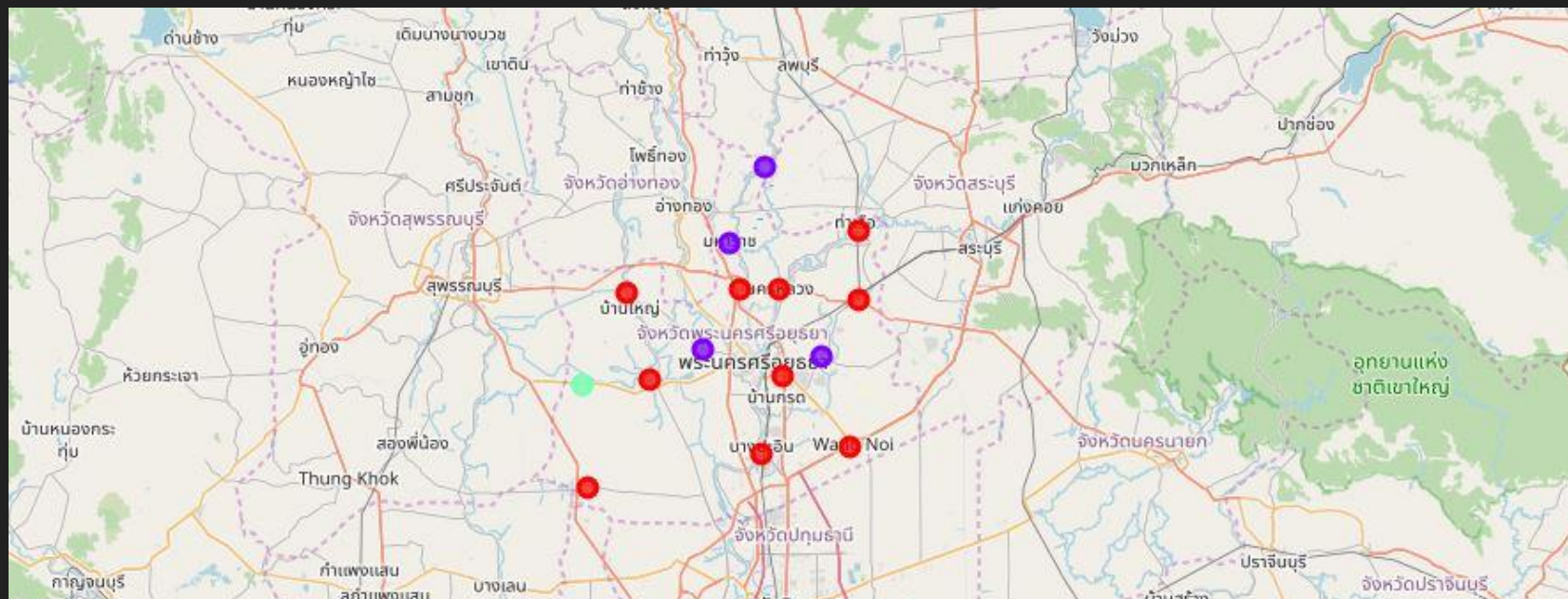
Red color : Cluster 0   Purple color : Cluster 1   Mint green color : Cluster 2

Discussion

- Most of popular restaurants are concentrated in the central area of Ayutthaya province
- The highest number in cluster 0 and moderate number in cluster 1
- cluster 2 has very low number with no restaurant in the neighborhoods (Bang Sai (1404), Bang Sai (1413))
- recommends property the foreign tourism to visited popular restaurant in neighborhood in cluster 0

Conclusion

- Providing recommendations to the foreign that need to visit on some restaurant

- Answer to business question : The neighborhoods in cluster 0 are the most preferred neighborhoods to invite the foreign tourist visited

- The findings of this project will help the foreign tourist to find the popular restaurant around the Tourist attraction

Thank for your review on my project