

COURSERA CAPSTONE

IBM Applied Data Science Capstone

Opening a New Shopping Mall in Cairo , Egypt

By: Rishabh Singh

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Business Problem

- The location of the shopping mall is one of the most significant decisions that will decide if the mall will be a failure or a success.
- Objective: To break down and choose the best areas in the city of Kuala Lumpur, Malaysia to open another shopping mall
- This task is convenient as the city is right now experiencing oversupply of shopping malls
- Business question
 - In the city of Cairo, Egypt, if a property developer is looking to open another shopping mall, where might you suggest that they open it?

Data

- Data required
 - List of neighbourhoods in Kuala Lumpur
 - Latitude and longitude coordinates of the neighbourhoods
 - Venue data, particularly data related to shopping malls
- Sources of data
 - Wikipedia page for neighbourhoods
(https://en.wikipedia.org/wiki/Category:Districts_of_Cairo)
 - Geocoder package for latitude and longitude coordinates
 - Foursquare API for venue data

Methodology

- Web scraping Wikipedia page for neighbourhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Shopping Mall
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

Results

- The outcomes from the k-means clustering show that we can order the areas into 3 clusters dependent on the recurrence of event for "Shopping Mall":
 - Cluster 0: Neighbourhoods with good number of shopping malls
 - Cluster 1: Neighbourhoods with very low number to no existence of shopping malls
 - Cluster 2: Neighbourhoods with no shopping malls

conclusion

- Answer to business question: The areas in cluster 0 are the most favoured areas to open another shopping mall
- Discoveries of this task will assist the applicable stakeholders with capitalizing on the open doors on high potential areas while maintaining a strategic distance from stuffed territories in their choices to open another shopping mall