The Battle of Neighborhoods

Cairo Neighborhoods

1- Introduction to Problem

- I want to help entrepreneurs in exploring better locations for their startups projects(restaurants, cafe, pharmacies) around the district of Cairo Egypt. It will help them make smart and efficient decisions on deciding which location to open their startup neighborhoods in Cairo district, Egypt. It has always been difficult in Egypt to find that kind of information. Usually entrepreneurs have to rely on very scarce data and just depend on their observations and hunches to select a location for their startups cafe or restaurants.

2-Data

- **Foursquare API:**
- This project would use Four-square API as its prime data gathering source as it has a database of millions of places, especially their places API which provides the ability to perform location search, location sharing and details about a business.
- **Wikipedia and web scraping**
- Web scraping to get the different neighborhoods of Cairo district and also webscraping and manual search to get the latitudes and longitudes of all Cairo neighborhoos as sometimes these kind of information is not readily available as ready tables.
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3- Methodology

- **Work Flow:**
- Using credentials of Foursquare API features of near-by places of the neighborhoods would be mined. Due to http request limitations the number of places per neighborhood parameter would reasonably be set to 100 and the radius parameter would be set to 500.
- **Libraries Which are Used to Develope the Project:¶**
- Pandas: For creating and manipulating dataframes.
- Folium: Python visualization library would be used to visualize the neighborhoods cluster distribution of using interactive leaflet map.
- Scikit Learn: For importing k-means clustering.
- JSON: Library to handle JSON files.
- XML: To separate data from presentation and XML stores data in plain text format.
- Geocoder: To retrieve Location Data.
- Beautiful Soup and Requests: To scrap and library to handle http requests.
- Matplotlib: Python Plotting Module.
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4- Results

- Using the api of Foursquare, I was able to explore the top 5 venues in each neighborhood of Cairo district. Investors will now have valuable clear information where to open their cafe or restaurants or any other kind of stores.
- You can find for example from the table below, that in Abdeen neighborhood, cafe are most popular kind of store and opening one in that area would be a valid choice
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5- Discussion

- As stated in the introduction, the main problem of Egypt regarding opening new stores in any location were the absence of reliable data and it was mainly done by experience and guesses and trial and error. So thanks to foursquare database api, this sort of results were tangible. And I could create a mapping table for each neighborhood in Cairo district and classify the top 10 venues in each neighborhood.
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6- Conclusion

- The work that was done in this project can be replicated to all other districts inside Egypt so that this kind of information and data can help investors. The quality of data and tangibility of data can be further expanded with time as more stores get recognized or registered on the Foursquare api and this kind of applications or services are not fully known all across Egypt. So basically it is a good start that requires more steps and time involved to enhance the dependency on this data.