



# Predicting Location for opening New Hotel in Sharm el sheikh

IBM APPLIED DATA SCIENCE CAPSTONE

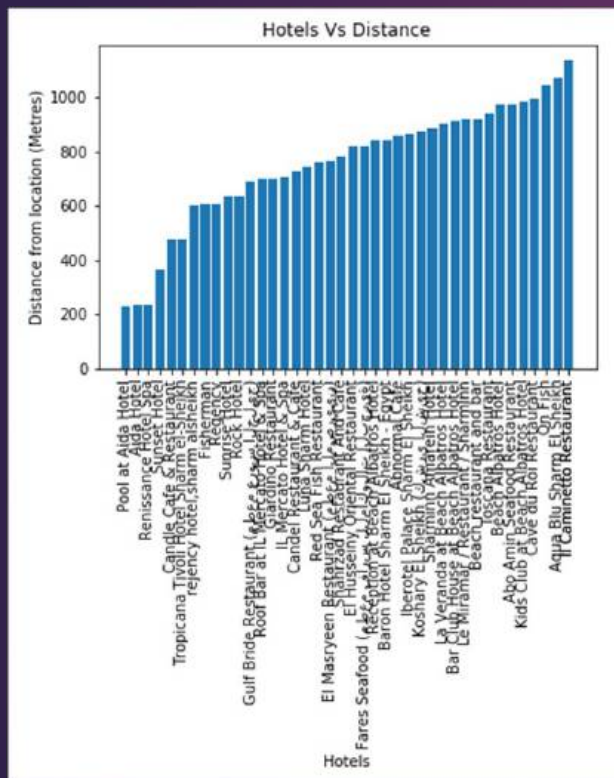
# Beginning of New Hotel in Sharm el sheikh

- Coming down to business problem, I would like to open a hotel/restaurant near beach side.
- As it is a famous tourist spot, there is already lots of attention towards it. I know there will be many competitors in terms of hotel and restaurant but this life.
- I want to bring foreign and local peoples attention towards my new hotel.
- The challenge is to find a suitable location for opening a new hotel/restaurant attracted to all local and foreign people in the center of all famous venues.

# Data Source and How will it be used ?

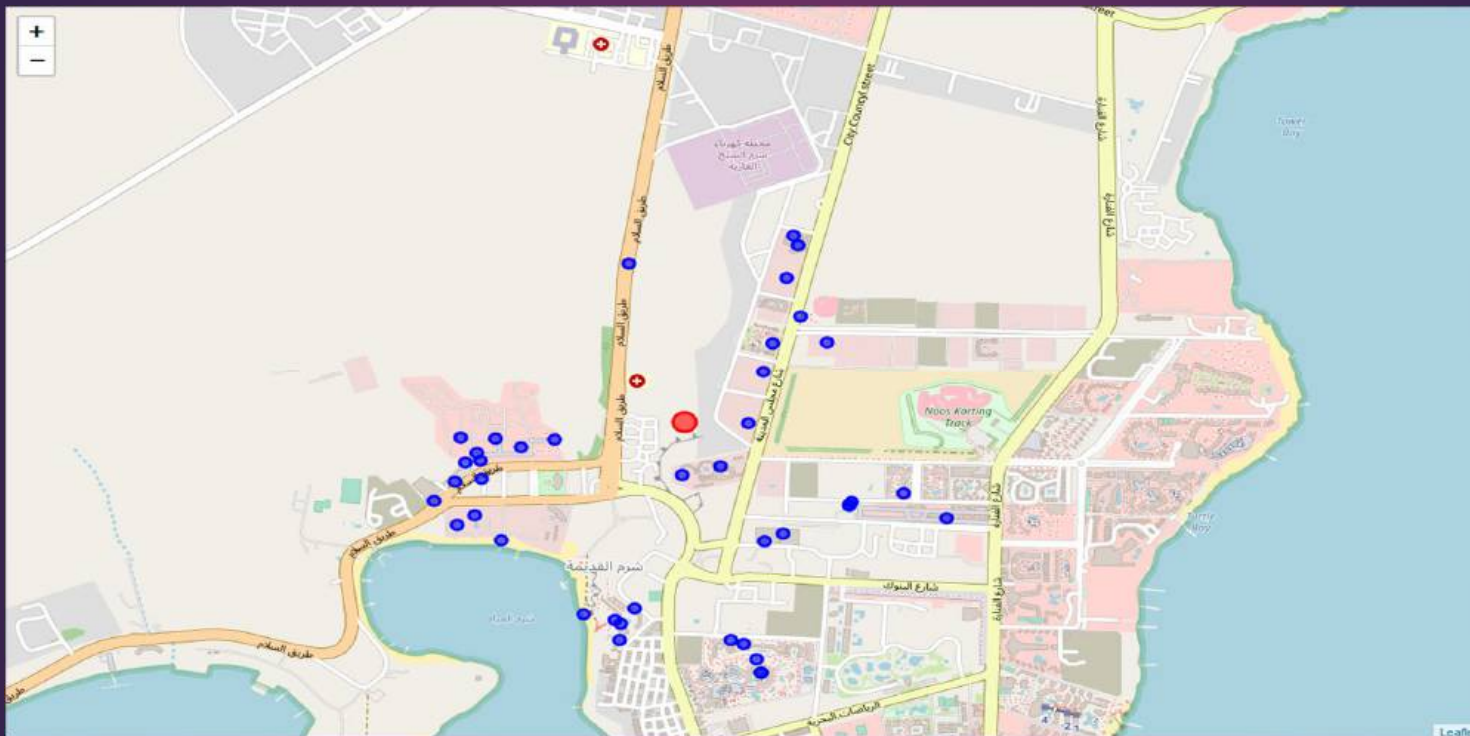
- We will be completely working on Foursquare data to explore and try to locate our new hotel where more venues like beach, museums, memorials that are present nearby.
- We will look for midpoint area of venues to locate our new hotel. Before that our major focus will be on all venues present in and around the core place of Sharm el sheikh.
- Our core location of Sharm el sheikh is spotted at 27.8669082, 34.3014551

# Hotels

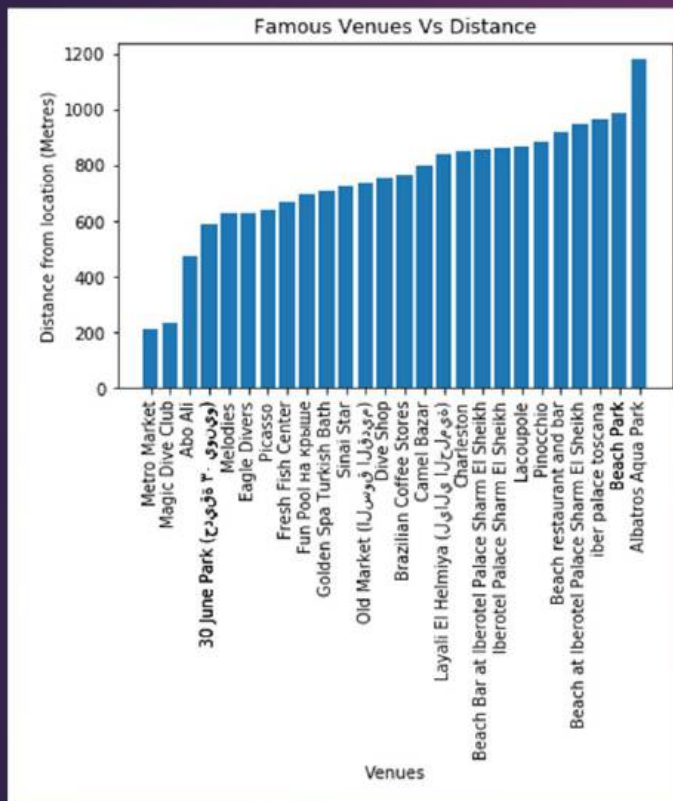


- There are 41 restaurants and hotels with a radius 1 KM captured through foursquare data .
- Pool at Aida hotel is the closest of all other hotels.
- Il Caminetto Restaurant remains so far away compared with the rest of the hotels/restaurants.
- Average distance between all hotels to the core location is 764 meters

# Map of hotels

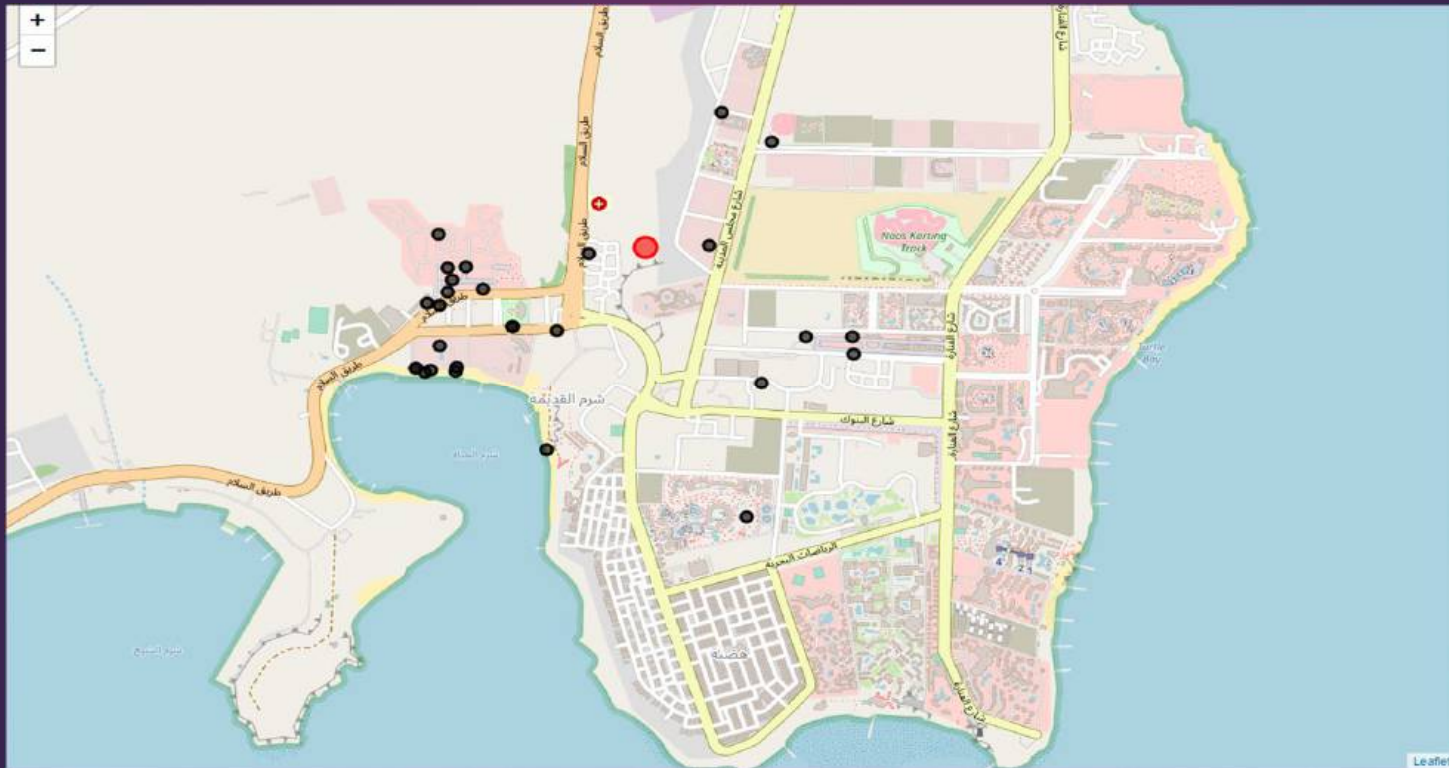


# Venues



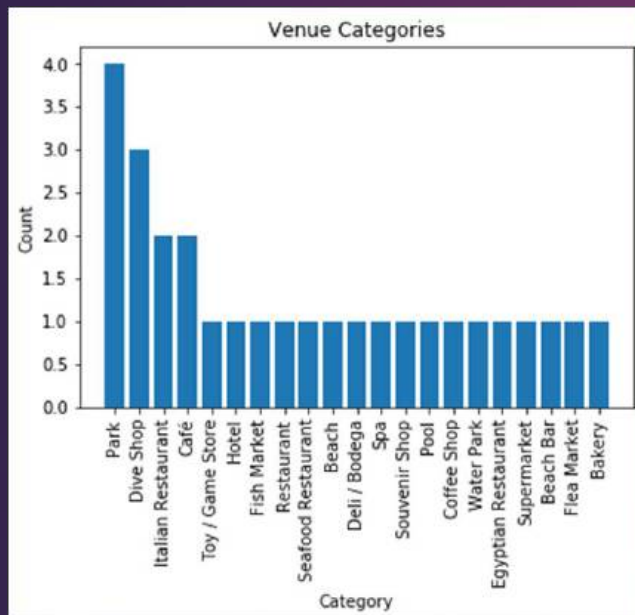
- There are 28 venues with a radius 1 KM captured through foursquare data.
- We can see that Metro Market and Magic Dive Club are close from our location.
- We can see also that Albatros Aqua Park is so far away from our location.

# Map of Venues





# Venues Categories



- There are 21 venue categories found in the data.
- We can see that Park, Dive Shop, Italian Restaurants and café are the most venue categories.
- There is venue with high variations.



# Rating

	Venue	Rating	distance
0	Abo Ali	7.5	475
1	Iberotel Palace Sharm El Sheikh	8.1	865
2	Fresh Fish Center	7.4	671
3	Metro Market	6.4	213
4	Brazilian Coffee Stores	6.7	770
5	Sinai Star	6.4	730
6	Melodies	6.2	628
7	Old Market (السوق القديم)	6.3	738
8	Beach at Iberotel Palace Sharm El Sheikh	6.3	948
9	Golden Spa Turkish Bath	5.9	710
10	Layali El Helmiya (ليالي الحلمية)	5.9	842

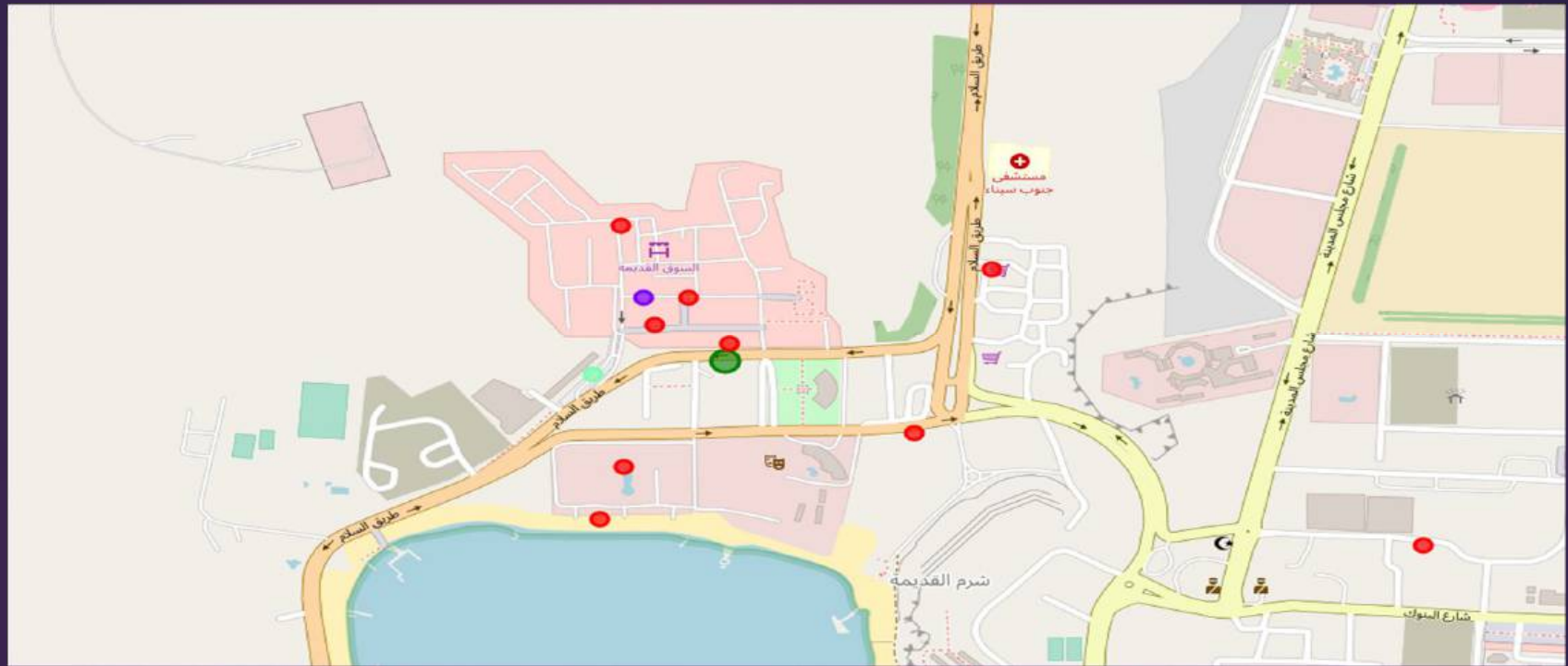
- Abo Ali has the highest rating.
- Layal El Helmiya and Golden Spa Turkish Bath have the lowest ratings .
- Other venues which are not in the given list didn't receive any ratings.



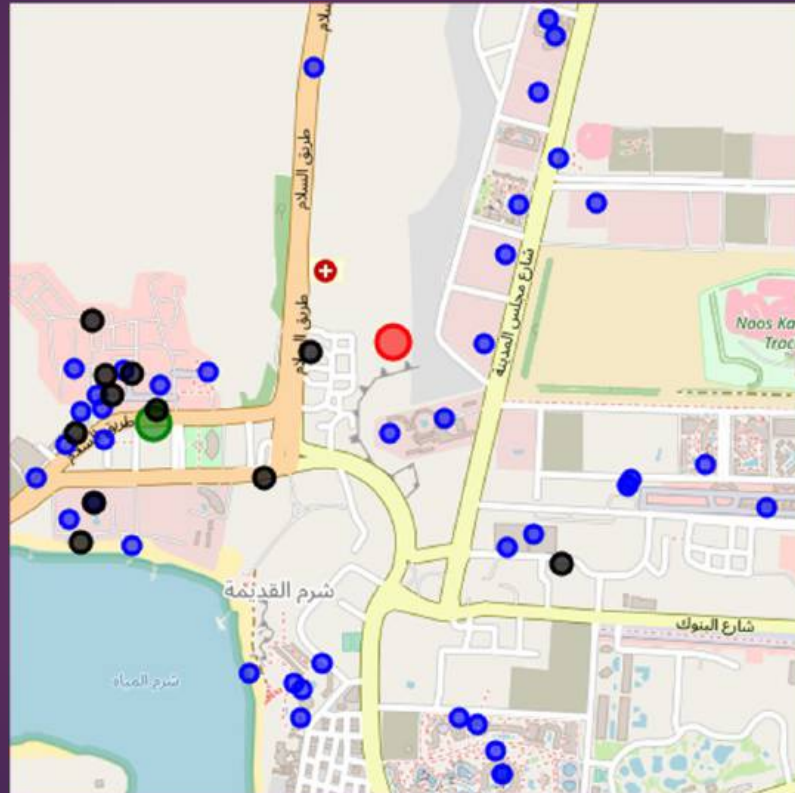
# Clustering and Midpoint of venues

- The ideology behind this could be to produce the center location of all famous top rated venues.
- First we will find the clusters and based on it, we will take average of all centroids.
- Secondly, we will get the midpoint of all shortlisted rated venues
- Now we will get mean of both and decide our final location
- We looked for three clusters and they were out as shown in map (next slide)

100



# combined



# My Predicted Location

- Final location is pointed at 27.865067817116596, 34.29524703125478.
- This location is at front of Pizza Melodies restaurant.
- Located at a one way road which can give more attention to people who pass by.
- Main venues are Abo Ali, Iberotel Palace Sharm El Sheikh, Fresh Fish Center, Metro Market and Brazilian Coffee Stores

# Discussion & Conclusions

- The output we achieved was accurate and did its job with the given data.
- This location is at front of Pizza Melodies restaurant.
- As a business person, one would be able to set up a hotel/restaurant on given spot. This will bring revenue automatically as we have located in very near to core one. We proved this with Kmeans.
- Despite of the findings, there was some kind of lack in data. Rating were missing for most of the venues. Also when I compared foursquare data with google map, I could see there were many hotels and venues missing in foursquare data
- Anyways, It was a cool course and I enjoyed putting my effort into it.