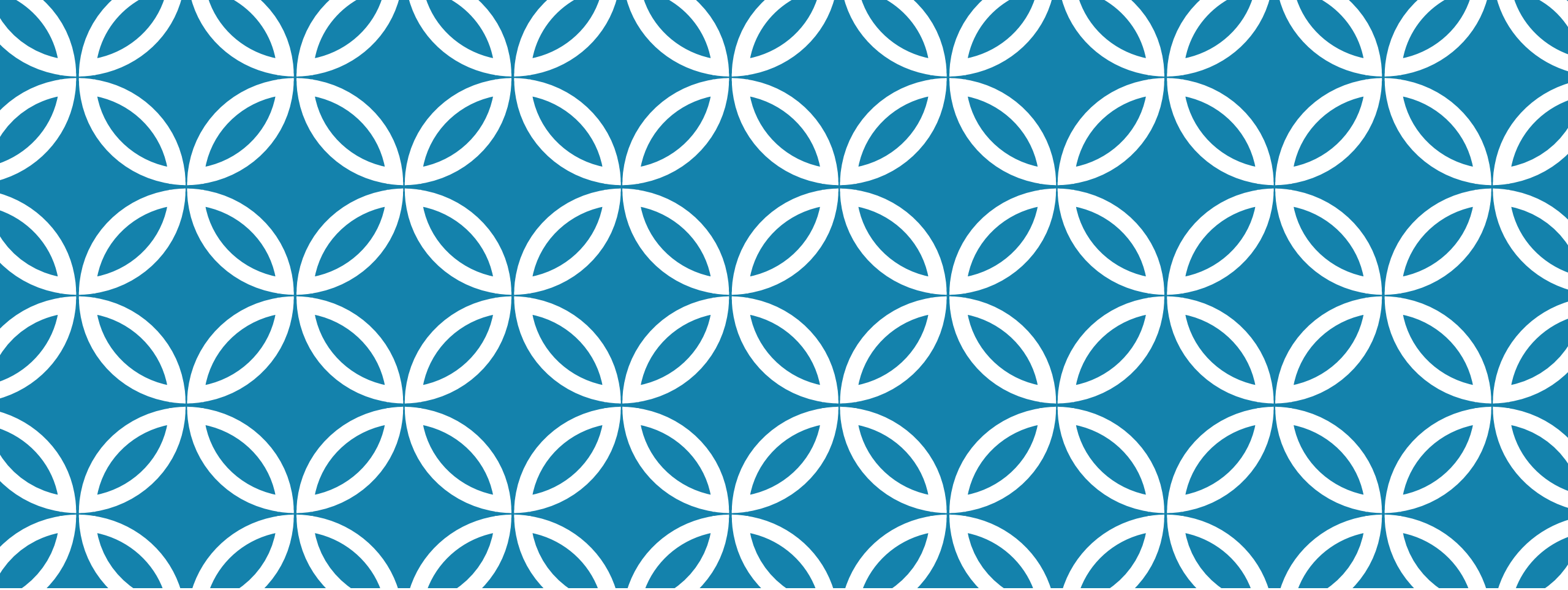

CAPSTONE PROJECT CASE STUDY

Indian Restaurants In Al Karama Neighborhoods

INTRODUCTION: BUSINESS PROBLEMS

- In this project we will try to find an optimal location for a restaurant.
- Specifically, this report will be targeted to stakeholders interested in opening an **Indian restaurant** in **Karama**, Dubai, U.A.E.
- We are also particularly interested in **areas with no Indian restaurants in vicinity**.
- We would also prefer locations **as close to city center as possible**, assuming that first two conditions are met.
- We will use our data science powers to generate a few most promising neighborhoods based on this criteria.

DATA

- Google Maps API geocoding
- Foursquare API
- Google Maps API reverse geocoding
- Neighborhood Candidates

METHODOLOGY

- In first step we have collected the required **data**
- Second step in our analysis will be calculation and exploration of **'restaurant density'** across different areas
- In third and final step we will focus on most promising areas and within those create **clusters of locations**

COORDINATES OF CENTERS OF AL KARAMA NEIGHBORHOODS

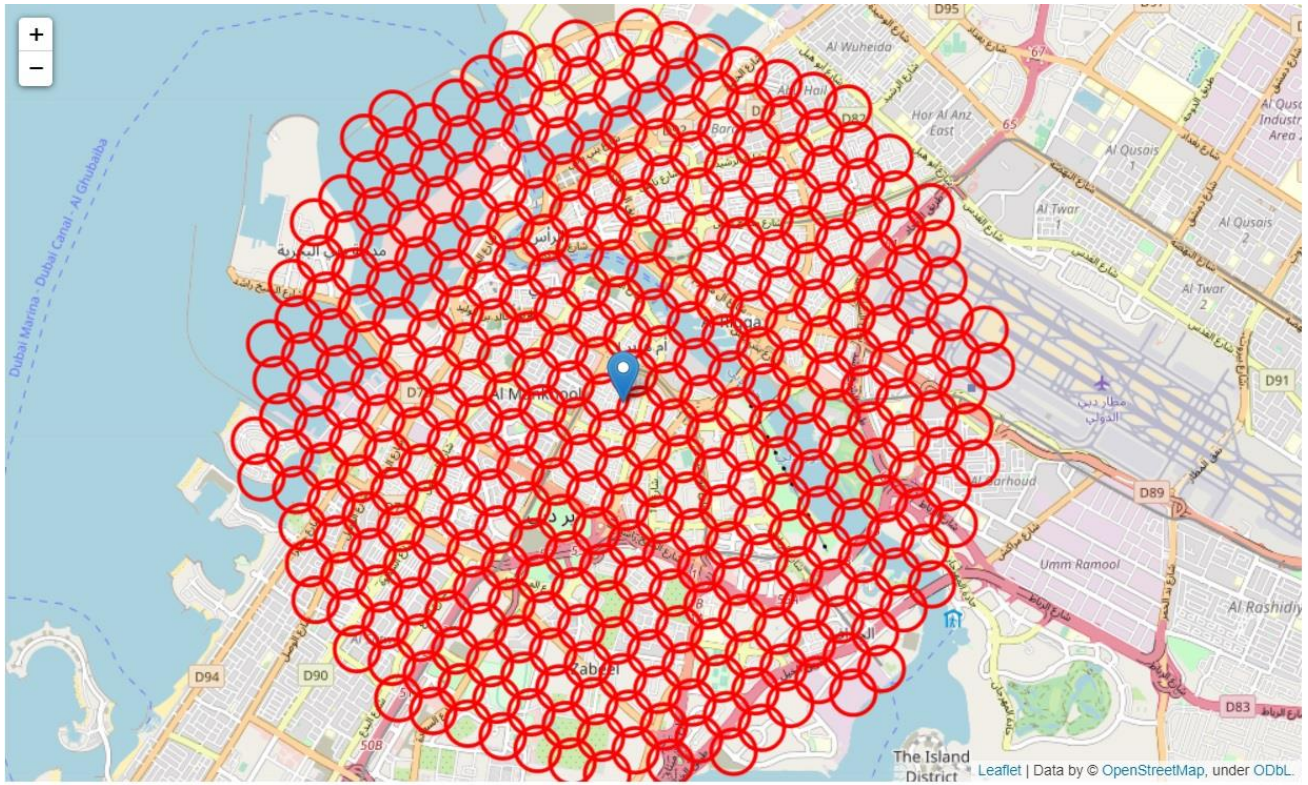

Fig 1 ~6km within Al Karama

ANALYSIS-_BASIC EXPLANATORY DATA ANALYSIS

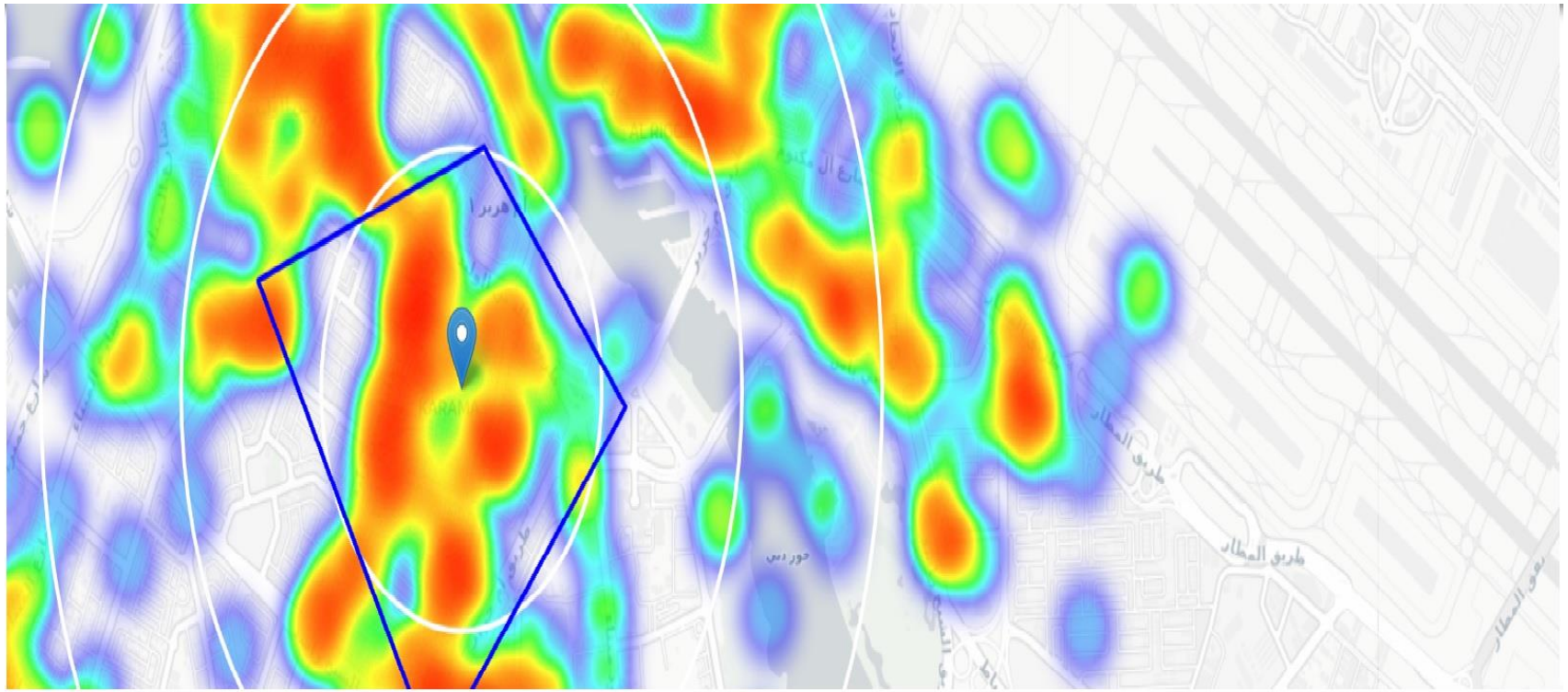

Fig 2 Heat Map -Resturants Density in Al Karama

DENSITY OF INDIAN RESTUARANTS IN AL KARAMA

Fig 3 Heat Map- Indian Restuarant Density

DENSITY OF RESTURANTS IN AL KARAMA NEIGHBORHOOD

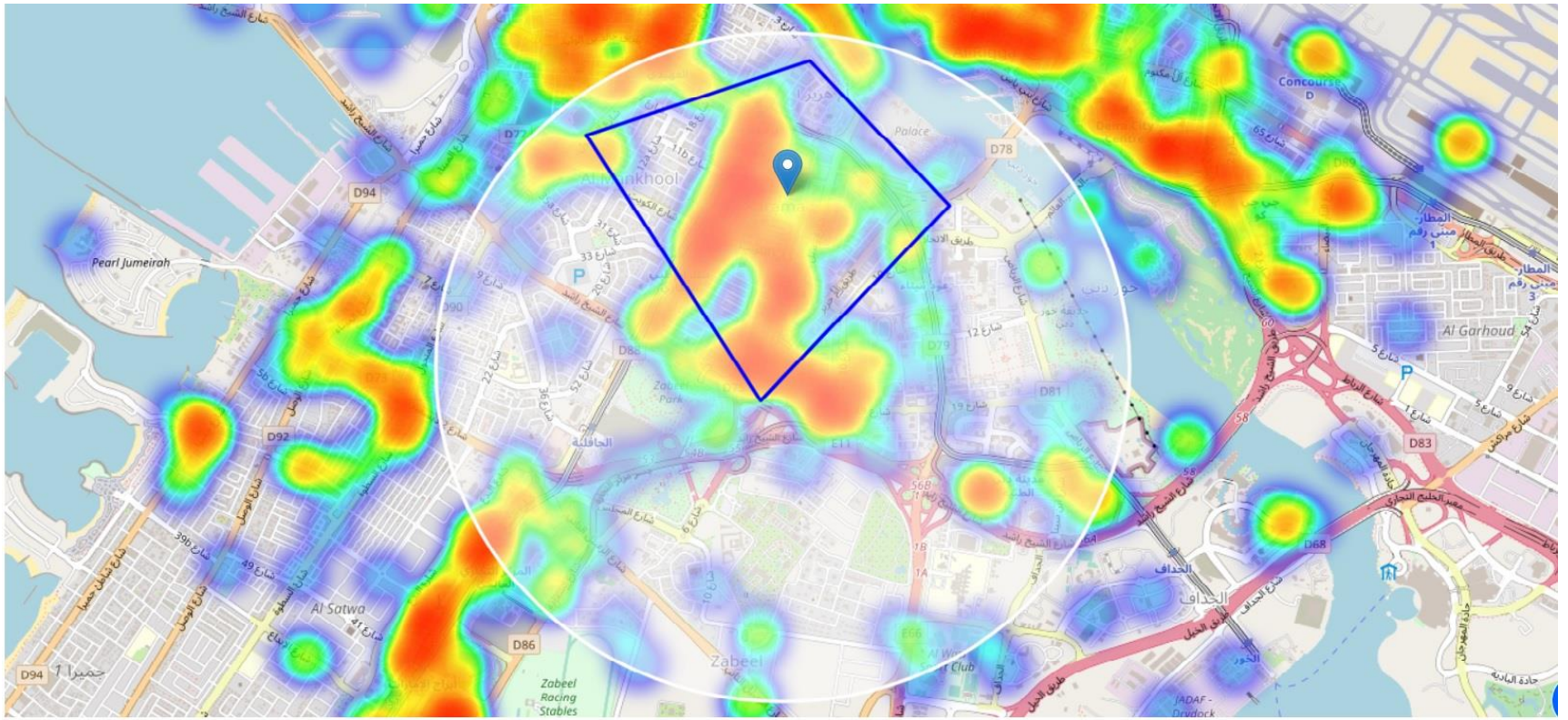

Fig 4 Heat Map - Resturants Density in Neighbourhood of Al Karama

ZERO INDIAN RESTURANTS ZONE IN AL KARAMA NEIGHBORHOOD

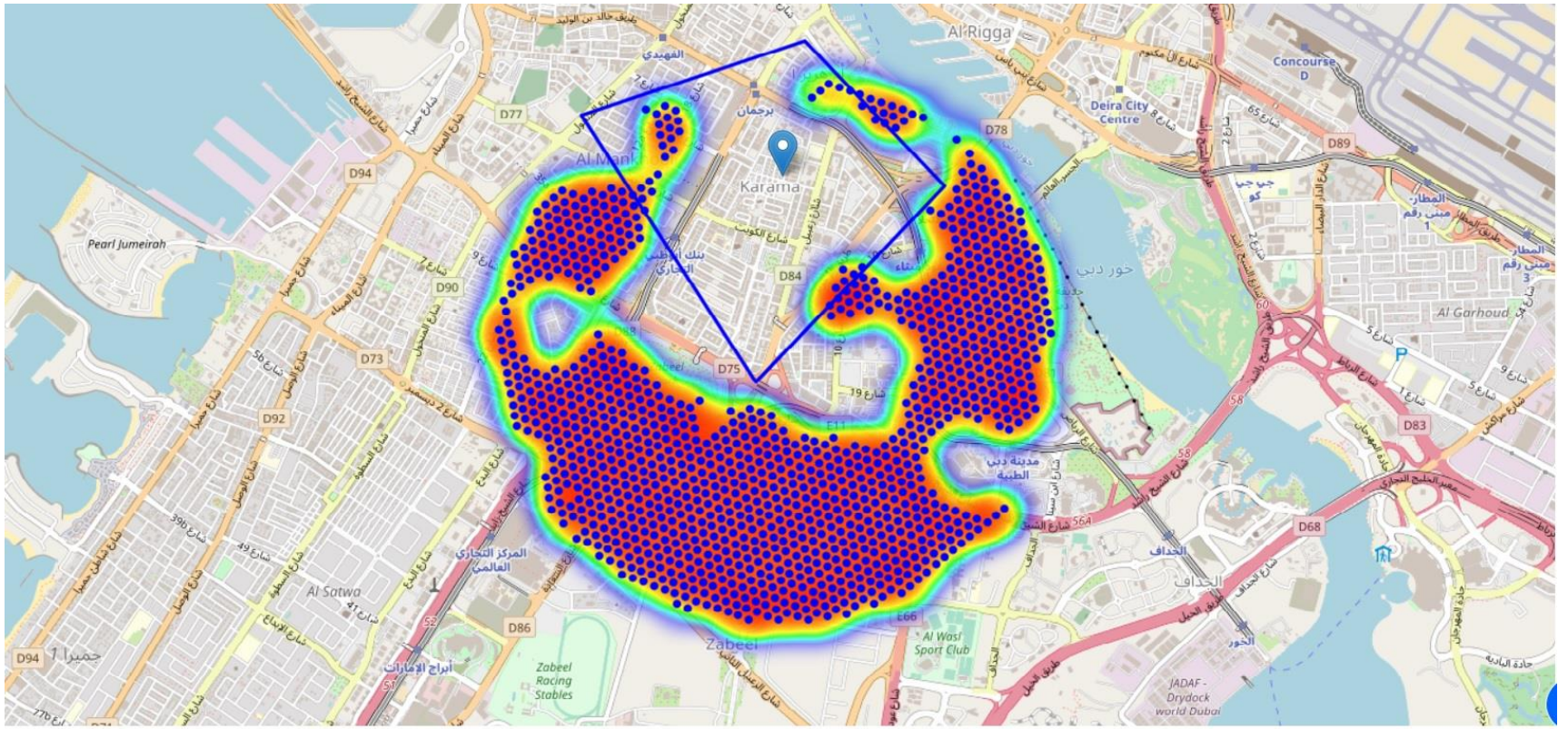

Fig 5 Zero Indian Restaurants Zone on the neighbourhood of Al karama

KMEANS CLUSTERING OF RESTAURANTS IN AL KARAMA NEIGHBORHOOD

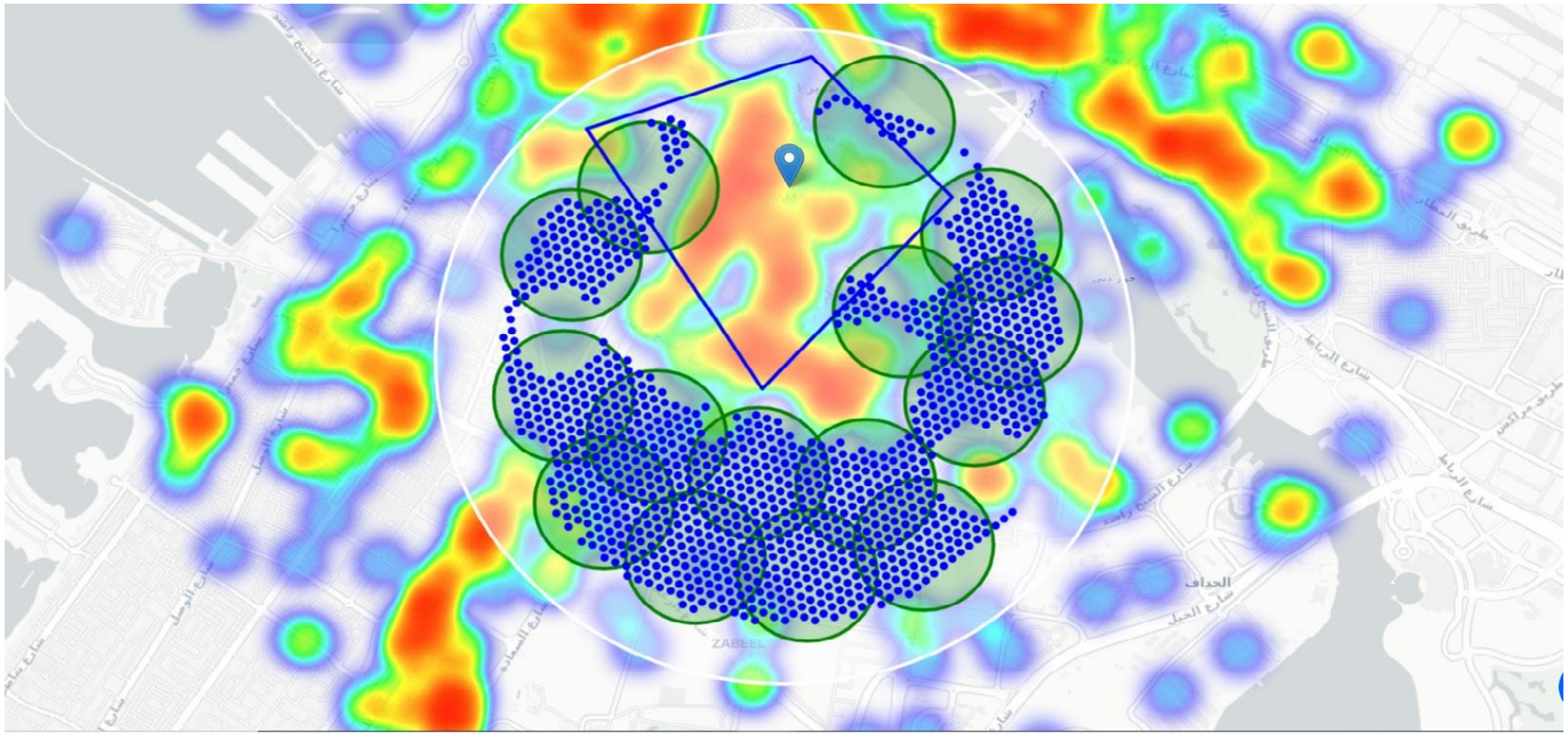

Fig 6 Kmeans Clustering of Indian Resturants in Al Karama Neighborhood

K MEANS CLUSTERING WITHOUT HEAT MAP-AL MANKOOL

Fig 8 Al Mankool Neighbourhood of Al Karama in Clustering Map

K MEANS CLUSTERING WITHOUT HEAT MAP-AL RIGGA

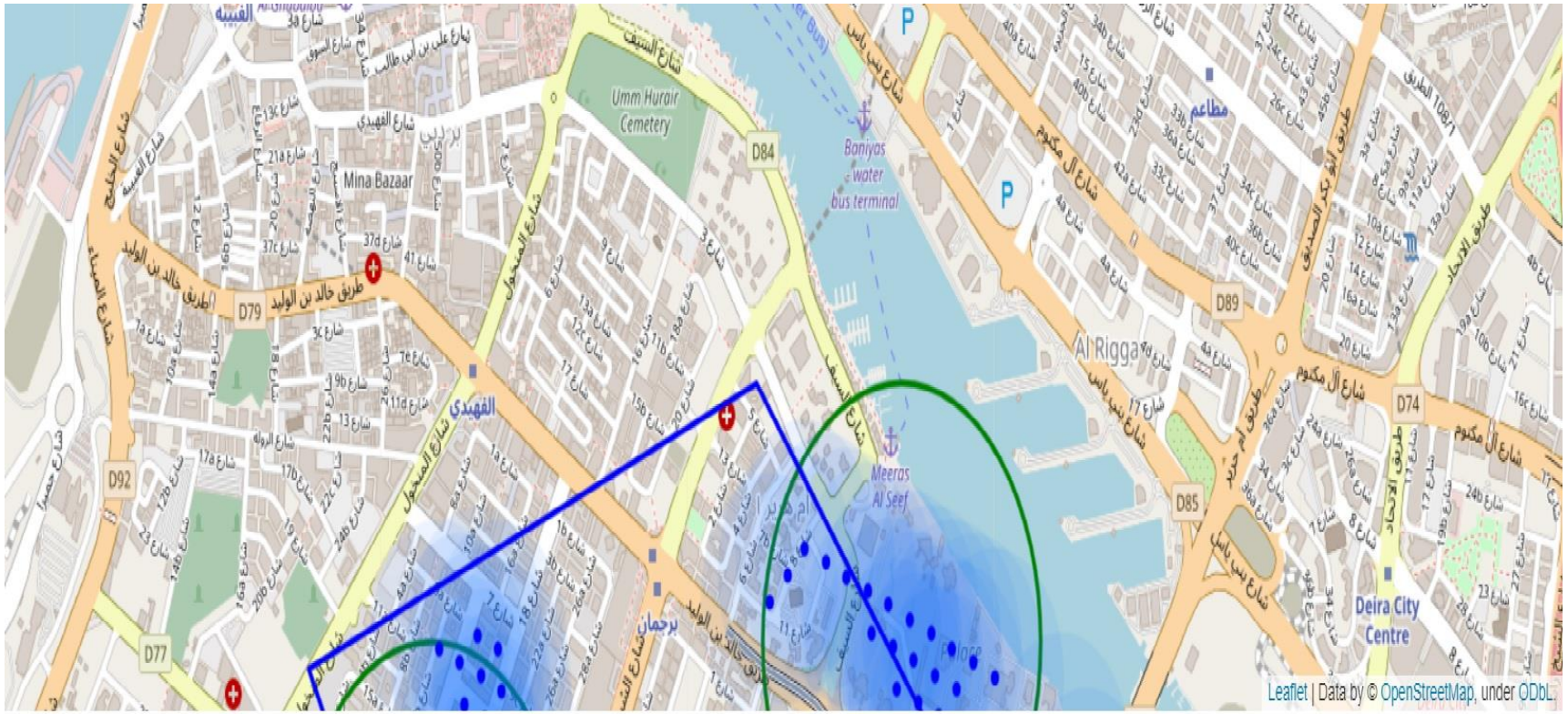

Fig 9 Al Rigga Neighbourhood of Al Karama in Kmeans Cluster

K MEANS CLUSTERING IN AL KARAMA NEIGHBORHOOD

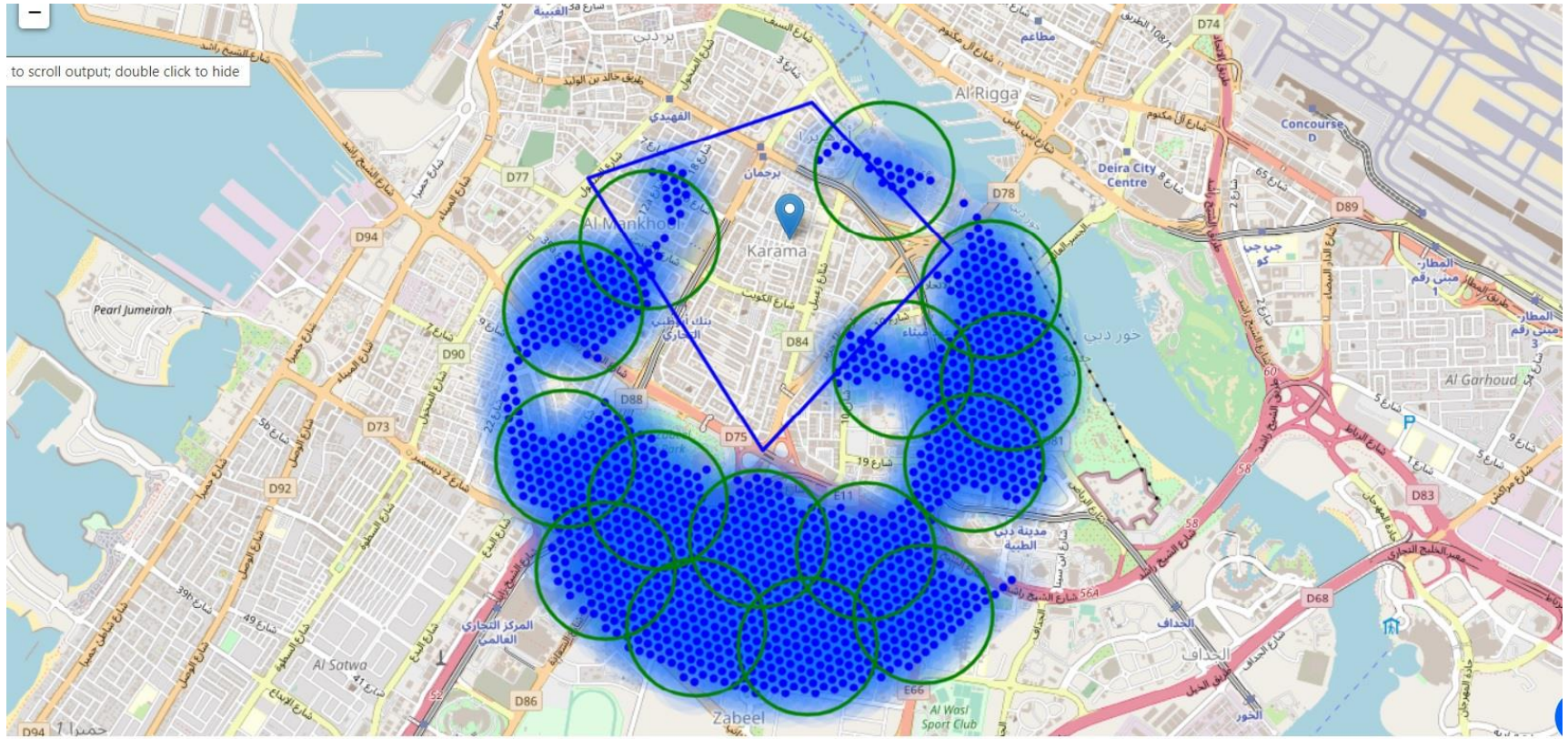

Fig 7 Clustering without Heat map

RESULTS AND DISCUSSION

- Highest concentration of restaurants was detected north and west from Al Karama.
- Our attention was focused on Al Mankool and Al Rigga.
  - offer a combination of popularity among tourists, closeness to city center, strong socio-economic dynamics
- Another borough was identified as potentially interesting – AL Zabeel.
- Recommended zones should therefore be considered only as a starting point for more detailed analysis which could eventually result in location

BEST LOCATIONS FOR NEW INDIAN RESTURANTS IN NEIGHBORHOOD

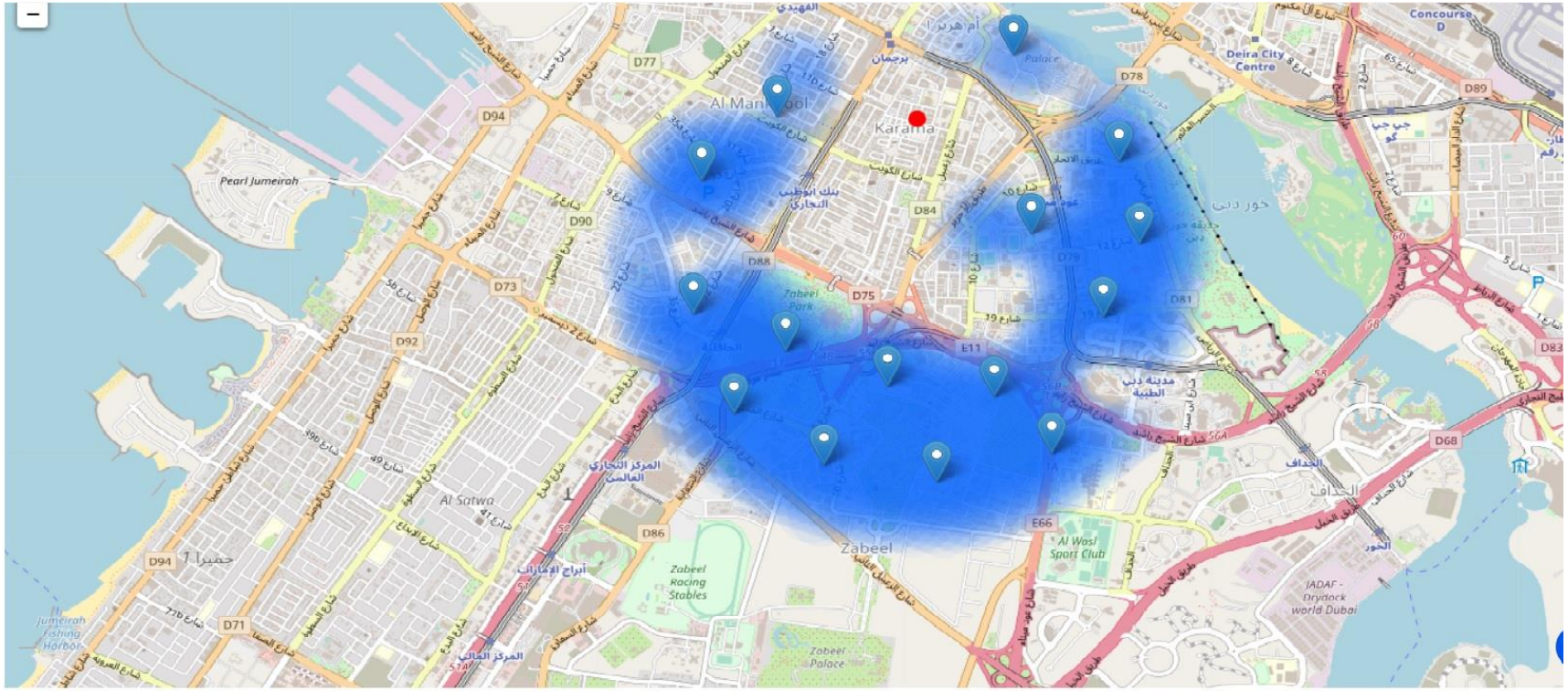

Fig 10 Suitable location for Indian Resturants in AL Karama Neighbourhood

CONCLUSION

- Purpose of this project was to identify Dubai areas close to center with low number of restaurants (particularly Indian restaurants) .

- By calculating restaurant density distribution from Foursquare data we have first identified general boroughs that justify further analysis (Al Mankool and Al Rigga).

- Clustering of those locations was then performed in order to create major zones of interest (containing greatest number of potential locations) .

- Final decision on optimal restaurant location will be made by stakeholders based on specific characteristics of neighborhoods and locations in every recommended zone.