

# The Battle of Neighborhoods

Opening a new Hotel in Paris, France

**IBM Applied Data Science Capstone**

**Coursera Capstone**

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- Location of the Hotel is one of the most important decisions that will determine whether the mall will be a success or a failure
- Objective : analyse and select the best locations in the city of Paris, France to open a new Hotel
- This project is timely as Paris is currently the most visiting city in Europe.

## • Business question

- In the city of Paris, France, if a property developer is looking to open a new Hotel, where would you recommend that they open it?



- **Data required**

- List of neighborhoods in Paris
- Latitude and longitude coordinates of the neighborhoods
- Venue data, particularly data related to Hotels

- **Sources of data**

- Wikipedia page for neighborhoods  
( [https://en.wikipedia.org/wiki/Category:Districts\\_of\\_Paris](https://en.wikipedia.org/wiki/Category:Districts_of_Paris) )
- Geocoder package for latitude and longitude coordinates
- Foursquare API for venue data





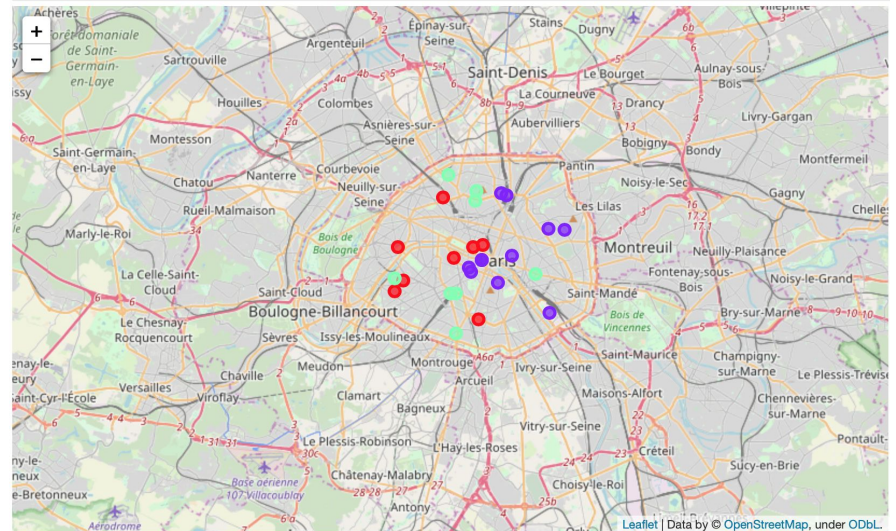
# Methodology

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



- Categorized the neighborhoods into 3 clusters :

- Cluster 0: Neighborhoods with low number of Hotels
- Cluster 1: Neighborhoods with moderate number of Hotels
- Cluster 2: Neighborhoods with low number of hotels



# Discussion

- Small number of Hotels are concentrated in the central area of Paris city
- Low number of Hotels in cluster 0 and 1 and moderate number of hotels in cluster 2
- There is very little to no competition from existing hotels



# Recommendations

- Open new hotel in neighborhoods in cluster 0 or cluster 2 with little to no competition
- Can also open new hotel in neighborhoods in cluster 1 with moderate competition





# Conclusion

- Answer to business question: The neighbourhoods in cluster 0 and 2 are the most preferred locations to open a new hotel
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new Hotel



A photograph of the Manhattan Bridge, showing its steel structure and suspension cables. The bridge spans a street lined with brick buildings. A semi-transparent, light brown rectangular overlay is centered over the bridge, containing the text "Thank You" in a white, serif font. The background shows the bridge's steel framework, including the large towers and the lower-level walkway. The surrounding urban environment includes brick buildings with fire escapes and bare trees on the left side.

Thank You