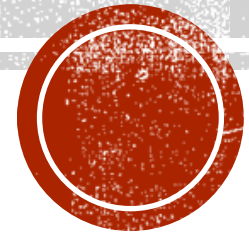


BEST SPOT TO START A RESTAURANT IN MEXICO CITY



Marco Aldama Cuevas

INTRODUCTION

- Mexico City is a big city visited by many every year presenting a great opportunity for investors.
- If a restaurant is to be opened in the city , where would be the best spot to target tourists?
- What is the cuisine that the proposed restaurant can provide?



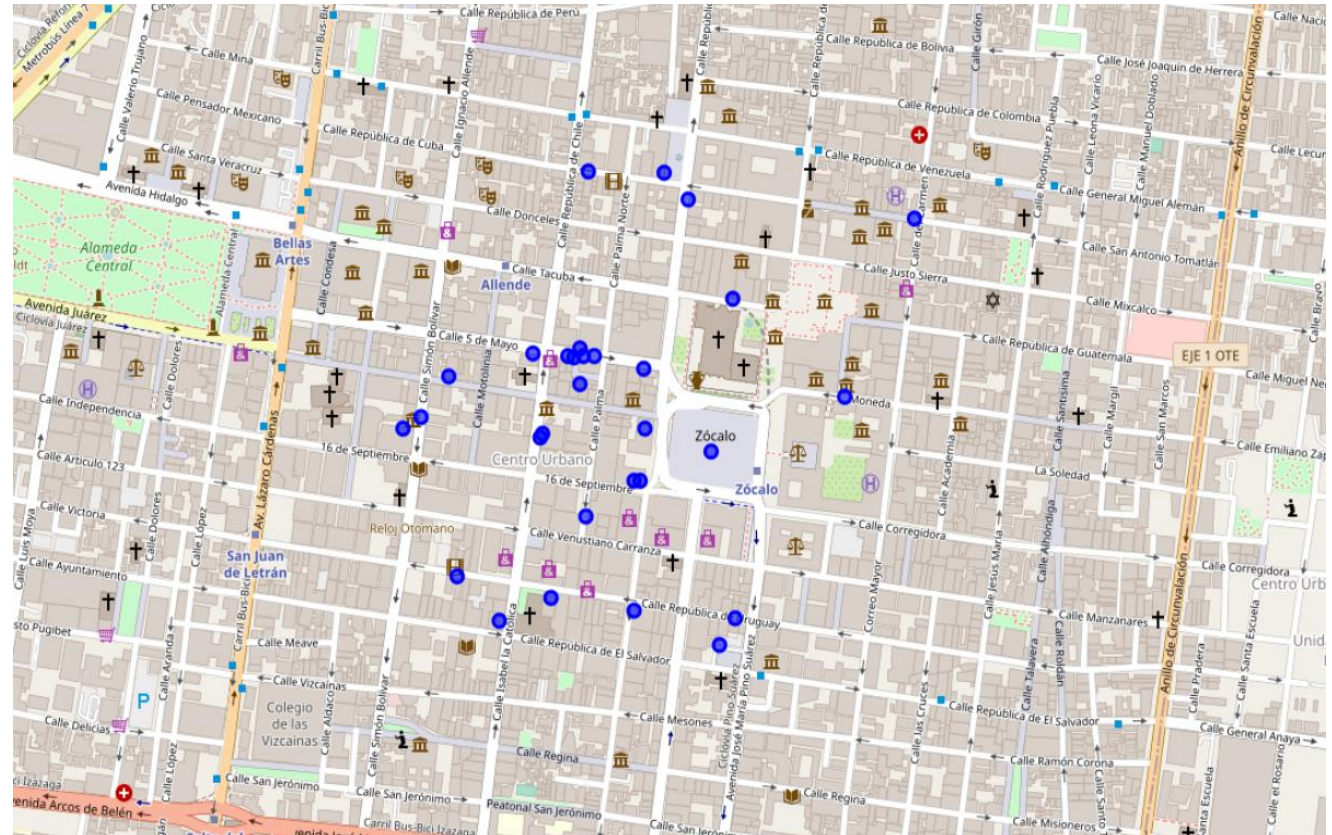
DATA

- Geocoder package for latitude and longitude coordinates.
- Foursquare API is the main source of data in our problem.
- Two datasets were retrieved, cleaned, and prepared for analysis
- Hotels dataset with locations
- Trending restaurants dataset with categories and location



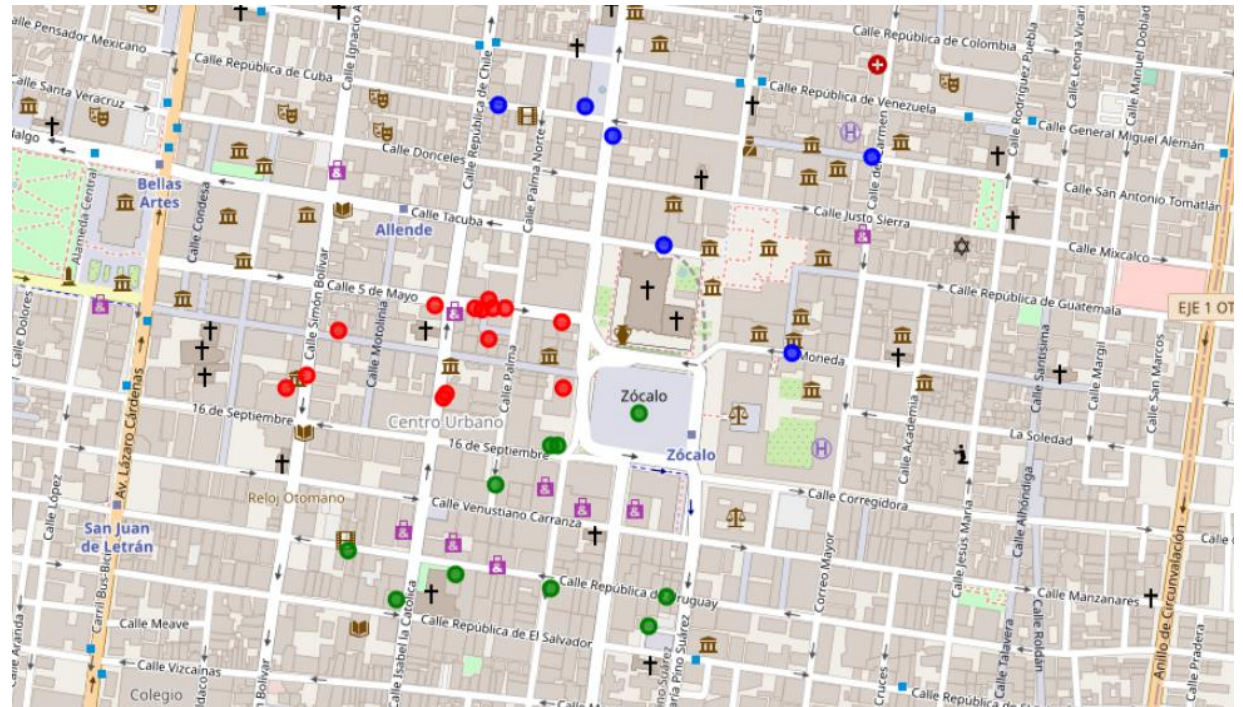
HOTEL LOCATIONS IN MEXICO CITY

- The hotels data was visualized on a map with folium to see where they are located.
- To find the touristic areas (where there are hotels in high densities), we need to group the hotels in clusters.
- By visual inspection, we can see that they can be clustered into 3 groups.



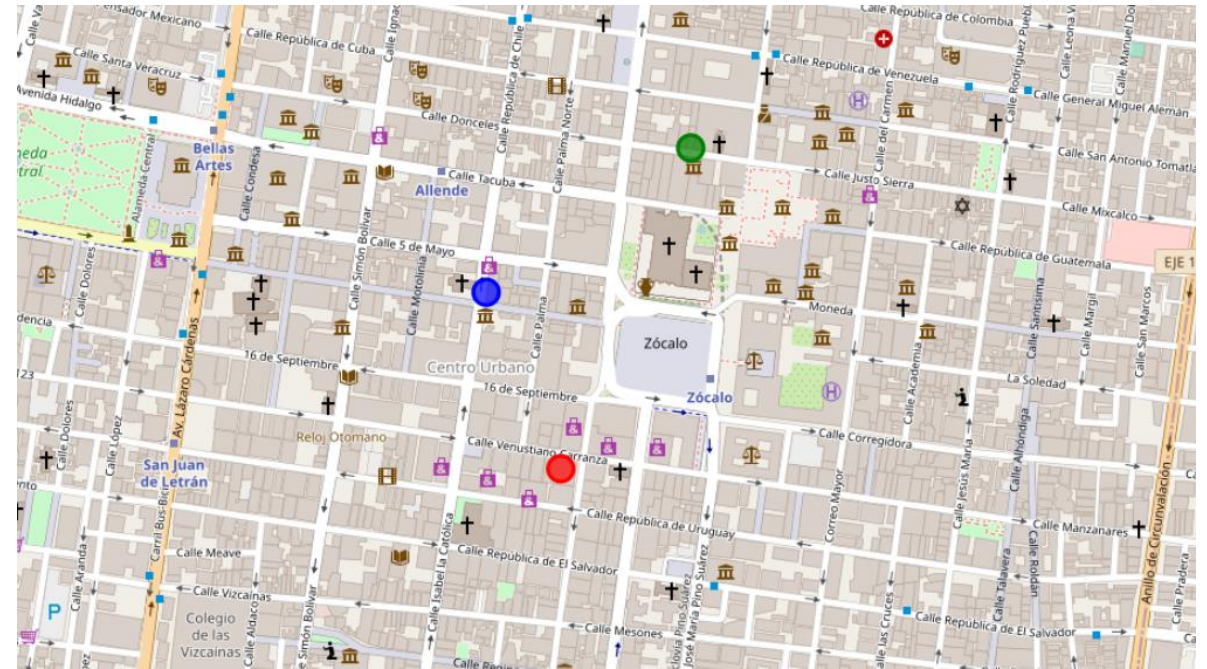
CLUSTERING HOTELS WITH K-MEANS

- K-Means Clustering algorithm was used to group the hotels in three clusters.
- Red-green-blue coloring scheme was used to differentiate hotels of different clusters.



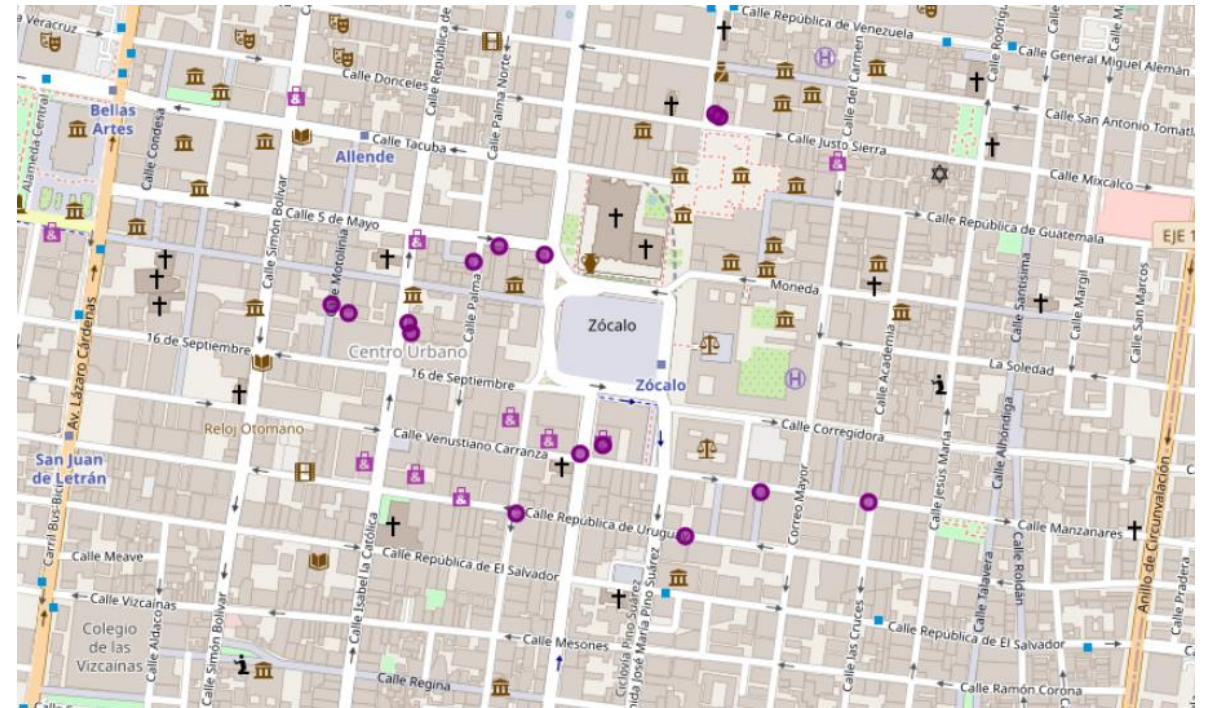
CLUSTERS CENTERS

- Each cluster generated by KMeans had hotels centered around a single point, these points location coordinates were retrieved and visualized.



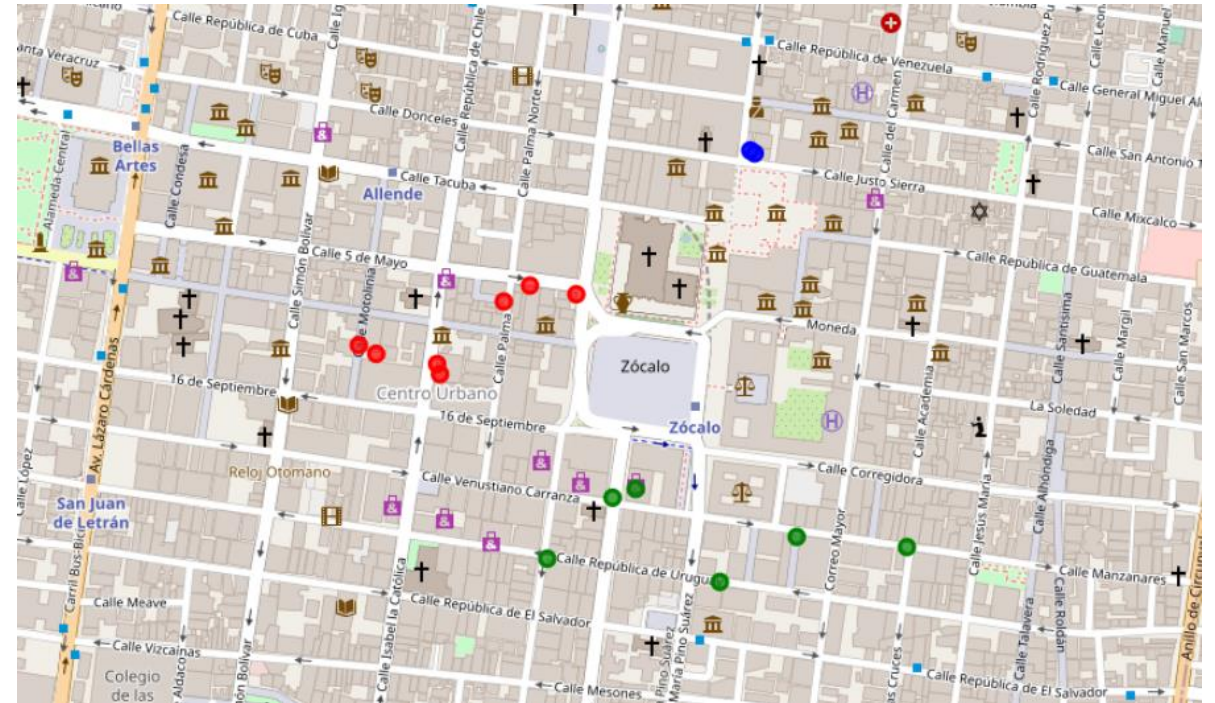
RESTAURANTS LOCATION IN MEXICO CITY

- Restaurants locations were retrieved from Foursquare API and visualized on the map.
- To know which hotel cluster had the lowest competition in restaurants we need to classify the restaurants in these clusters and count them.



CLASSIFYING RESTAURANTS USING KNN

- KNN Classification algorithm was used to assign a class label to each restaurant in our dataset.
- The KNN model was trained on the centers' locations dataset.
- Each restaurant was assigned the value of the closest single center.



LOWEST COMPETITION

- To find the lowest level of competition we look for the area of the minimum number of restaurants.
- It was found that the red region have minimum number of restaurants per hotel.

Restaurant Cluster	Counts
0	7
1	6
2	2

Hotel Cluster	Counts
0	15
1	10
2	5



CUISINE TYPE

- To find the food category in demand we analyzed the category of each restaurant in the dataset and counted the frequency of each category. •
- As the dataset represent restaurants with the highest foottraffic levels, they were considered trending venues.
- It is found that Mexican is the trending cuisine type.

