

Coursera Capstone IBM Applied Data Science
Capstone

*Opening a New Italian Restaurant in Rome,
Italy*

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Business Problem

- Location of the restaurant is one of the most important decisions that will determine whether the restaurant will be a success or a failure.
- Objective: To analyse and select the best locations in the city of Rome, Italy to open a new Italian restaurant.
- Business question ➤ In the city of Rome, Italy , if a individual or investor is looking to open a Italian restaurant., where would you recommend that they open it?

Data

- **Data required**

- List of neighbourhoods in Rome
- Latitude and longitude coordinates of the neighbourhoods
- Venue data, particularly data related to restaurant

Sources of data

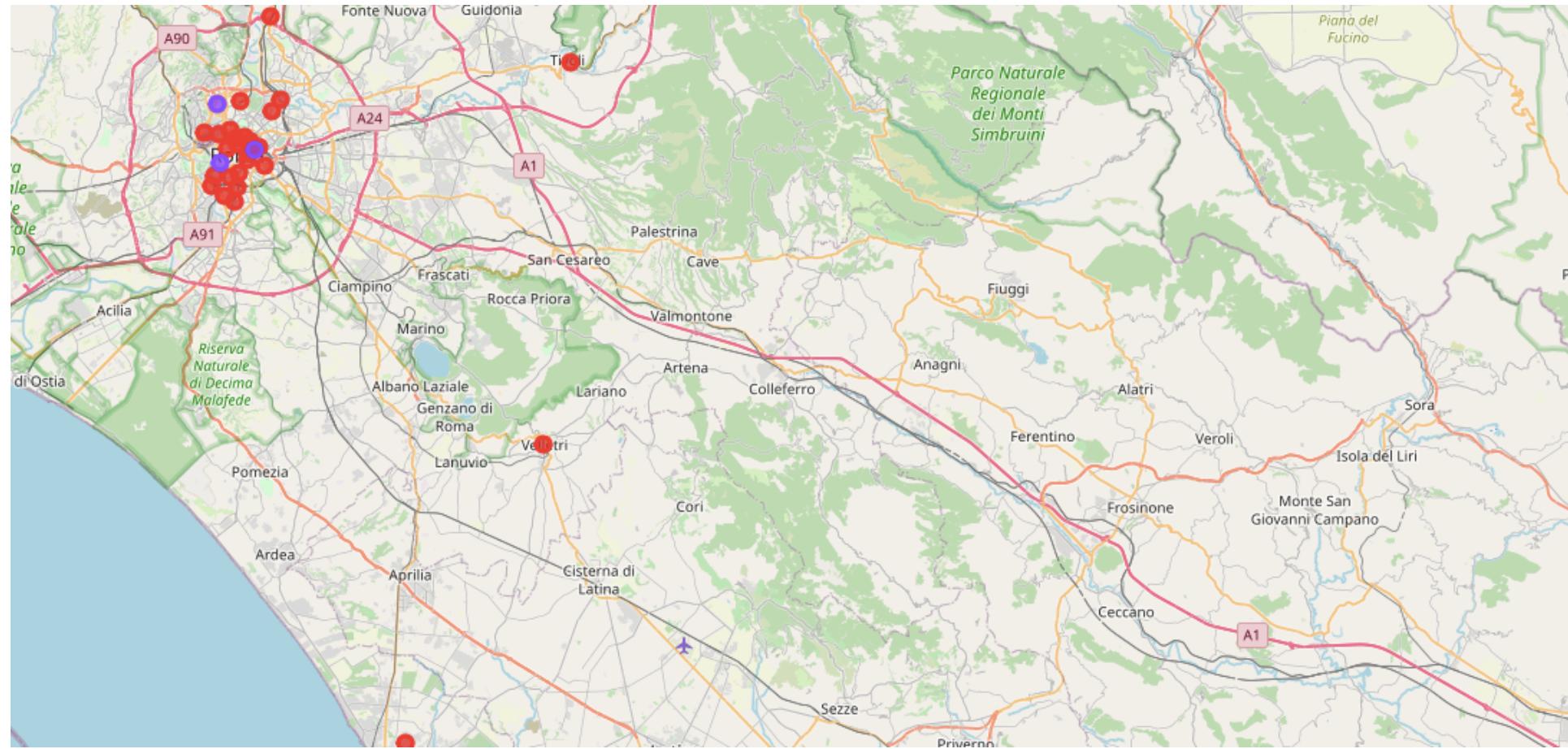
- Neighbourhoods in Rome page.
- Geocoder package for latitude and longitude coordinates
- Foursquare API for venue data

Methodology

- Extract neighbourhoods list.
- Get latitude and longitude coordinates using Geocoder.
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category.
- Filter venue category by Italian restaurant.
- Perform clustering on the data by using k-means clustering.
- Visualize the clusters in a map using Folium

Results

- Categorized the neighbourhoods into 2 clusters :
- Cluster 0: Neighbourhoods with moderate number of Italian restaurant
- Cluster 1: Neighbourhoods with high no. of Italian restaurant .



Discussion

- Most of the Italian restaurant are concentrated in the central area of the city.
- Highest number in cluster 1 and moderate number in cluster 0

Recommendations

- Open new Italian restaurant in neighbourhoods in cluster 0 with little competition.
- Avoid neighbourhoods in cluster 1, already high concentration of Italian restaurant and intense competition.

Conclusion

- Answer to business question: The neighbourhoods in cluster 1 are the most preferred locations to open a Italian restaurant .
- 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 Italian restaurant