



# Opening a Peruvian restaurant in Barcelona



# Objectives

- Analysis of the city of Barcelona and its neighborhoods using this web page [https://en.wikipedia.org/wiki/Districts\\_of\\_Barcelona](https://en.wikipedia.org/wiki/Districts_of_Barcelona)
- Convert address data into their equivalent latitude and longitude values defining a function
- Use the Foursquare API to explore the neighborhoods and to get venues in neighborhoods.
- Use the Foursquare API to get venue ratings in neighborhoods.
- Use the k-means clustering to complete clustering task
- Visualize the neighborhoods, venues , clusters using Folium

# Preparing the data set

Retrieved from: [https://en.wikipedia.org/wiki/Districts\\_of\\_Barcelona](https://en.wikipedia.org/wiki/Districts_of_Barcelona)

	Number	District	Population	Neighbourhoods
0	1	Ciutat Vella	111,290	La Barceloneta, El Gòtic, El Raval, Sant Pere,...
1	2	Eixample	262,485	L'Antiga Esquerra de l'Eixample, La Nova Esque...
2	3	Sants-Montjuïc	177,636	La Bordeta, la Font de la Guatlla, Hostafrancs...
3	4	Les Corts	82,588	les Corts, la Maternitat i Sant Ramon, Pedralbes
4	5	Sarrià-Sant Gervasi	140,461	El Putget i Farró, Sarrià, Sant Gervasi - la B...

	Number	District	Population	Neighbourhoods
0	1	Ciutat Vella	111,290	La Barceloneta
1	1	Ciutat Vella	111,290	El Gòtic
2	1	Ciutat Vella	111,290	El Raval
3	1	Ciutat Vella	111,290	Sant Pere
4	1	Ciutat Vella	111,290	Santa Caterina i la Ribera

Separating the neighborhoods to further analyze each one

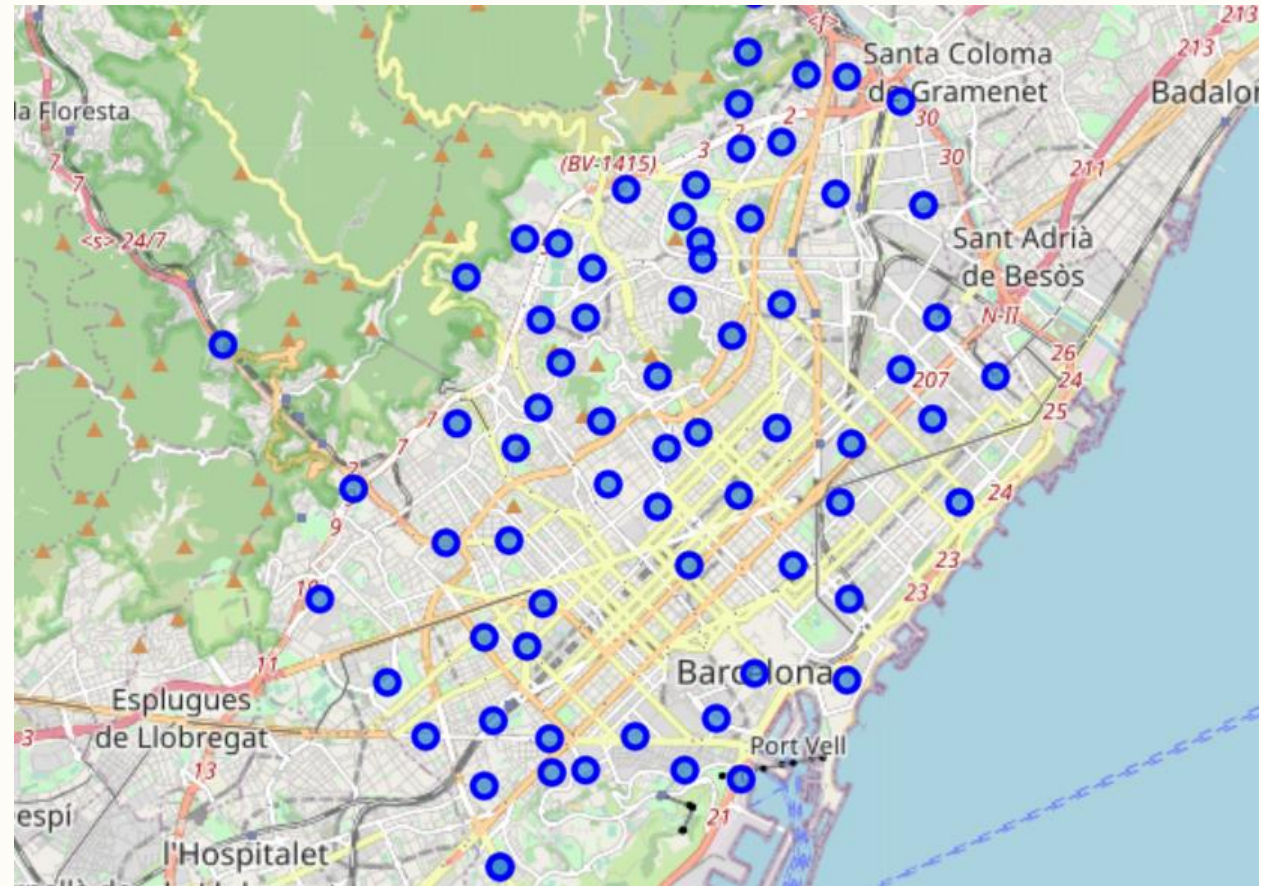
	Number	District	Population	Neighbourhoods	Latitude	Longitude
0	1	Ciutat Vella	111,290	La Barceloneta	41.38185	2.19151
1	1	Ciutat Vella	111,290	El Gòtic	41.38280	2.17727
2	1	Ciutat Vella	111,290	El Raval	41.37763	2.17145
3	1	Ciutat Vella	111,290	Sant Pere	41.40177	2.16258
4	1	Ciutat Vella	111,290	Santa Caterina i la Ribera	42.28390	2.01892

Extract latitude and longitude for each neighborhood using geocoder.arcgis and add it to dataframe





A map where we can see all the neighborhoods of Barcelona



# Analysis of the venus

Using Foursquare I got all the information about the 100 top venues, for each neighborhood in a radius of 1 km

	Neighbourhoods	Latitude	Longitude	VenueName	Venueld	VenueLatitude	VenueLongitude	VenueDistance	VenueCategory
0	La Barceloneta	41.38185	2.19151	Baluard Barceloneta	4c5144e3375c0f475ed8ae93	41.380047	2.189250	275	Bakery
1	La Barceloneta	41.38185	2.19151	BRO	535ea7db498e522c6b801a4f	41.380214	2.189007	277	Burger Joint
2	La Barceloneta	41.38185	2.19151	Platja de la Barceloneta (Playa de la Barcelon...	4c0d3610d64c0f47665e265d	41.379610	2.193038	280	Beach
3	La Barceloneta	41.38185	2.19151	Somorrostro	4b9165c4f964a5202bb933e3	41.379156	2.189100	361	Spanish Restaurant
4	La Barceloneta	41.38185	2.19151	acqua&farina	5b3bd6684420d8003919ee61	41.381023	2.190152	146	Pizza Place

	Count
VenueCategory	
Spanish Restaurant	137
Tapas Restaurant	120
Mediterranean Restaurant	109
Restaurant	108
Hotel	98
Café	86
Bakery	82
Plaza	77
Pizza Place	70
Bar	64

I got that in the top type of venue's category are mostly Spanish related cuisine type of restaurants follow by Mediterranean and restaurant in general with only 0.74% of Peruvian restaurants in Barcelona

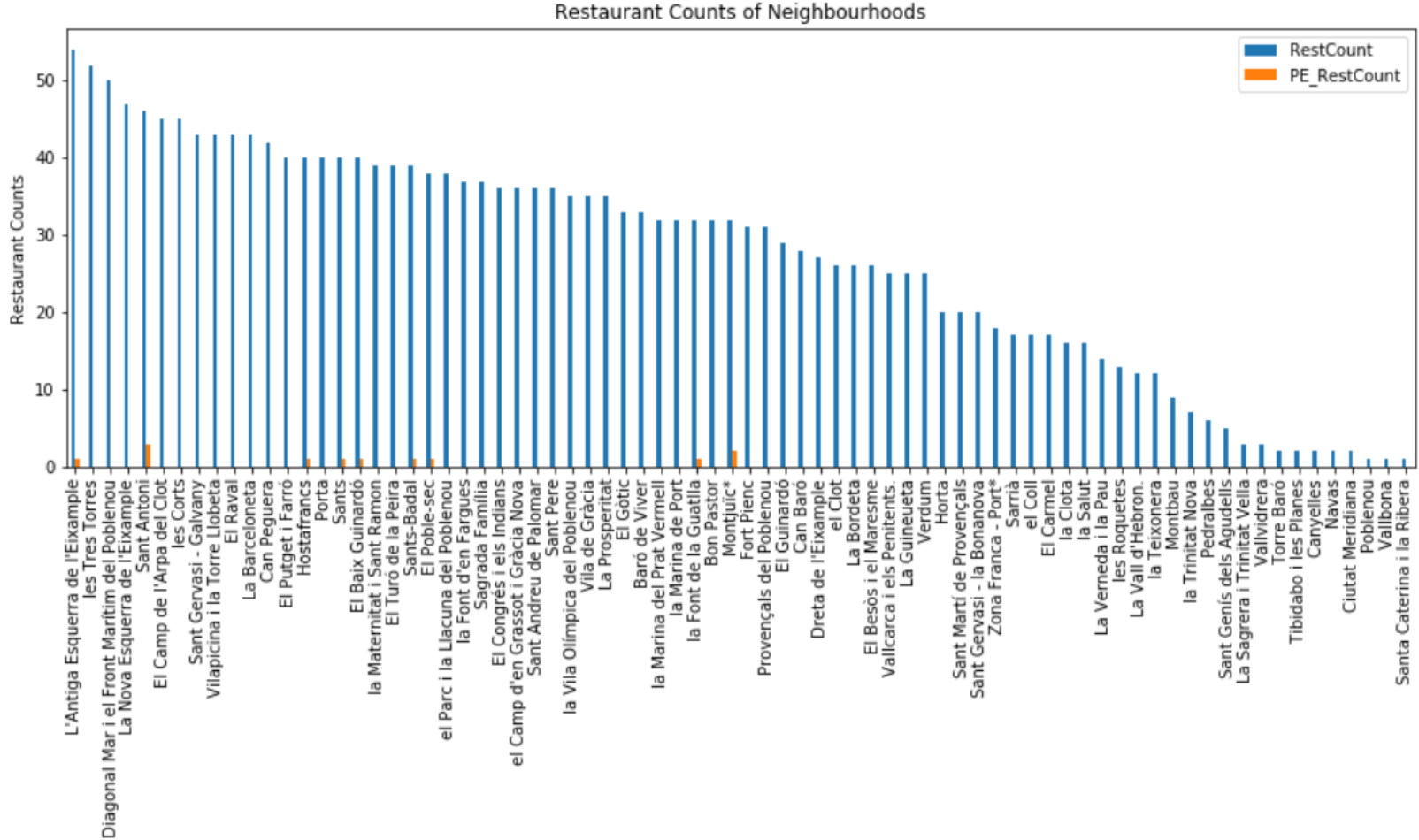
Total number of restaurants: 948

Total number of Peruvian restaurants: 7

Percentage of Peruvian restaurants: 0.74%

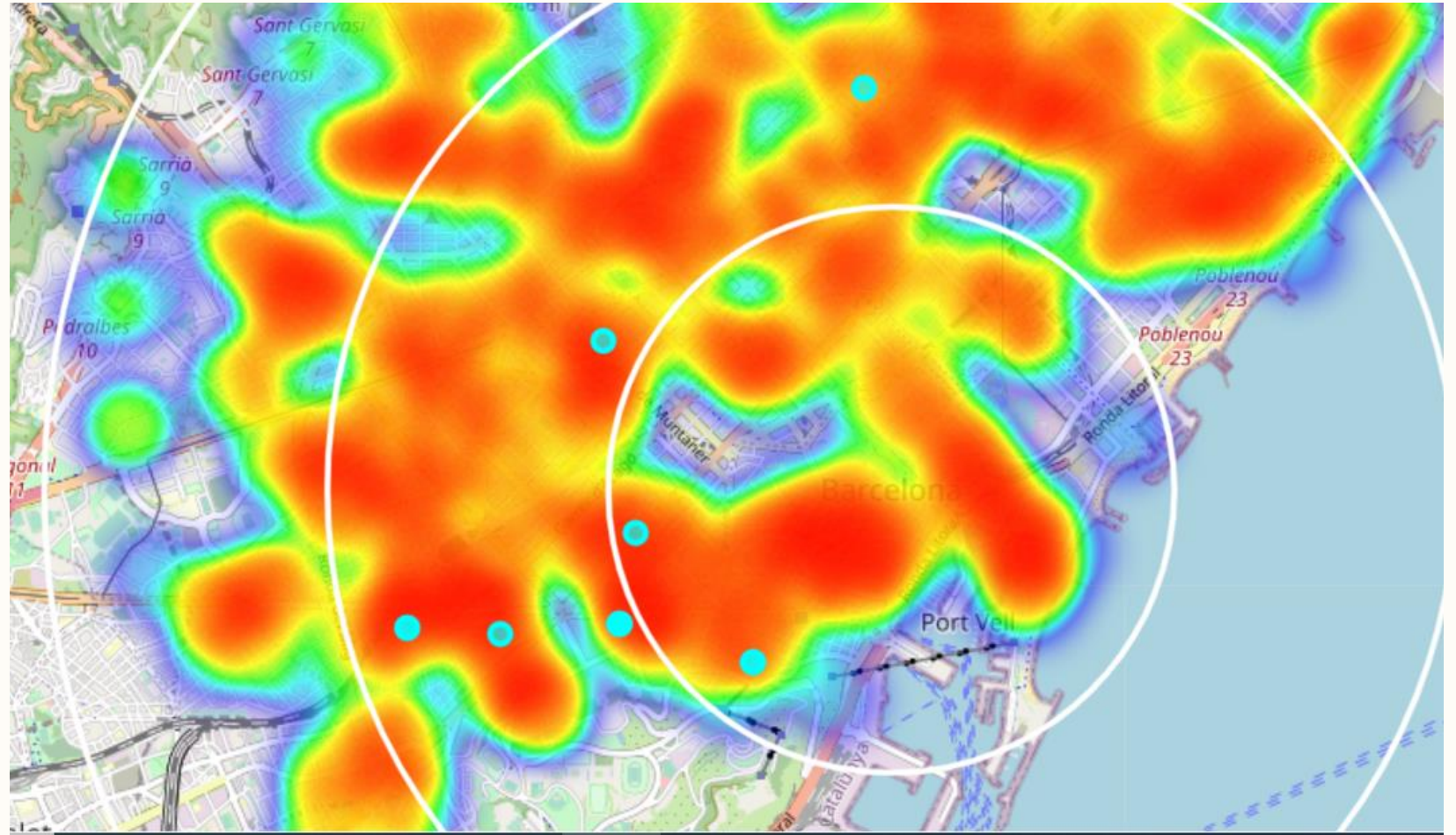
Most of the neighborhood in Barcelona don't have Peruvian restaurants

67 neighborhoods do not have any Peruvian restaurant



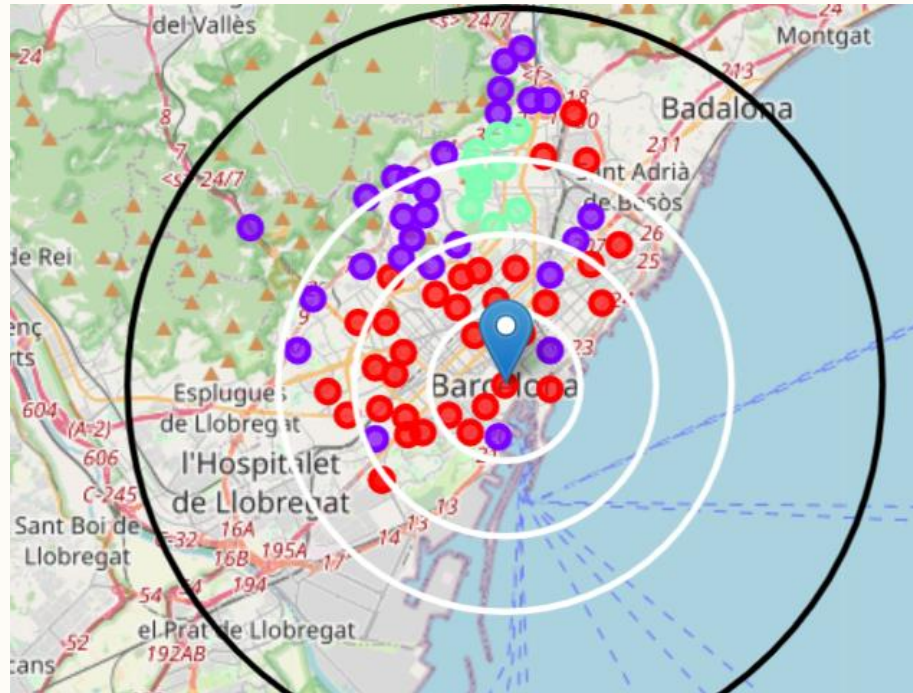


It can be seen that the neighborhoods that have Peruvian restaurants are mostly located between 2-4 km away from the center of Barcelona, still there are not many



# Clustering

The neighborhoods were cluster in 3 clusters



We can see cluster categories as below:

- Cluster 0 (Red) : Spanish food type Restaurant, Restaurant, Hotels
- Cluster 1 (Purple) : Grocery, cafes and Spanish type
- Cluster 2 (Green) : Tapas and Grocery

## 4. Results and discussion

The Cluster in Red is related with the tourist place, hotels full with typical food and cafes, all clusters have Spanish food. However opening a peruvian restaurant is more related with people that want to try a different cuisine as peruvian food is known for being expensive and one the best ones in the world. So we will not see the traditional restaurant as competition.

Depending on the segment of the population that we want to target the decision can be made.

It appears that the city and each neighbourhood has similarity between each other, all of them have spanish type cuisine, cafes, grocery. Only the center is related with other type of cuisines.



# Conclusion

1.El Gotic or Dreta de l'Eixample: If the peruvian that is going to be open is an expensive the best place to put will be near the center of the city, as we saw these two neighbourhoods are the ones with less number of food related places and the ones that dont have any peruvian restaurants nearby.

2.el Parc i la Llacuna del Poblenou: By looking to the current location of peruvian restaurants, they are located 4km away from the center, this neighbourhood is located in this area and doesnt have as many restaurants as other neighbourhoods.

3.Further investigation of the segmentation of the population and other cities close to Barcelona as Espluges and Hospitalet, that are well known for having a high quantity of migrants,is needed. Maybe these places can open an economic version of a peruvian restaurante for these people

