

IBM Capstone Project

The Battle of
Neighborhoods

February
2021



Barcelona Real Estate Pricing Analysis





Business Problem

Barcelona is a city on the coast of northeastern Spain.

It is the capital and largest city of the autonomous community of Catalonia, as well as the second most populous municipality of Spain. With a population of 1.6 million within city limits, its urban area extends to numerous neighboring municipalities within the Province of Barcelona and is home to around 4.8 million people, making it the fifth most populous urban area in the European Union. It is one of the largest metropolises on the Mediterranean Sea, located on the coast between the mouths of the rivers Llobregat and Besòs, and bounded to the west by the Serra de Collserola mountain range, the tallest peak of which is 512 meters (1,680 feet) high.

Business Problem

Barcelona is a major cultural, economic, and financial center.

as well as the main biotech hub in Spain. As a leading world city, Barcelona's influence in global socio-economic affairs qualifies it for global city status (Beta +).

Barcelona is a transport hub, with the Port of Barcelona being one of Europe's principal seaports and busiest European passenger port, an international airport, Barcelona–El Prat Airport, which handles over 50 million passengers per year, an extensive motorway network, and a high-speed rail line with a link to France and the rest of Europe.



Data Collection



To consider the above problem, the data is collected as following:

I found the List of areas of Barcelona with its boroughs and houses rent prices.

<https://opendata-ajuntament.barcelona.cat/data/en/dataset/est-mercat-immobiliari-lloguer-mitja-mensual>

I used ForsquareAPI to get the most common venues of given Borough of Barcelona.

<https://developer.foursquare.com/>

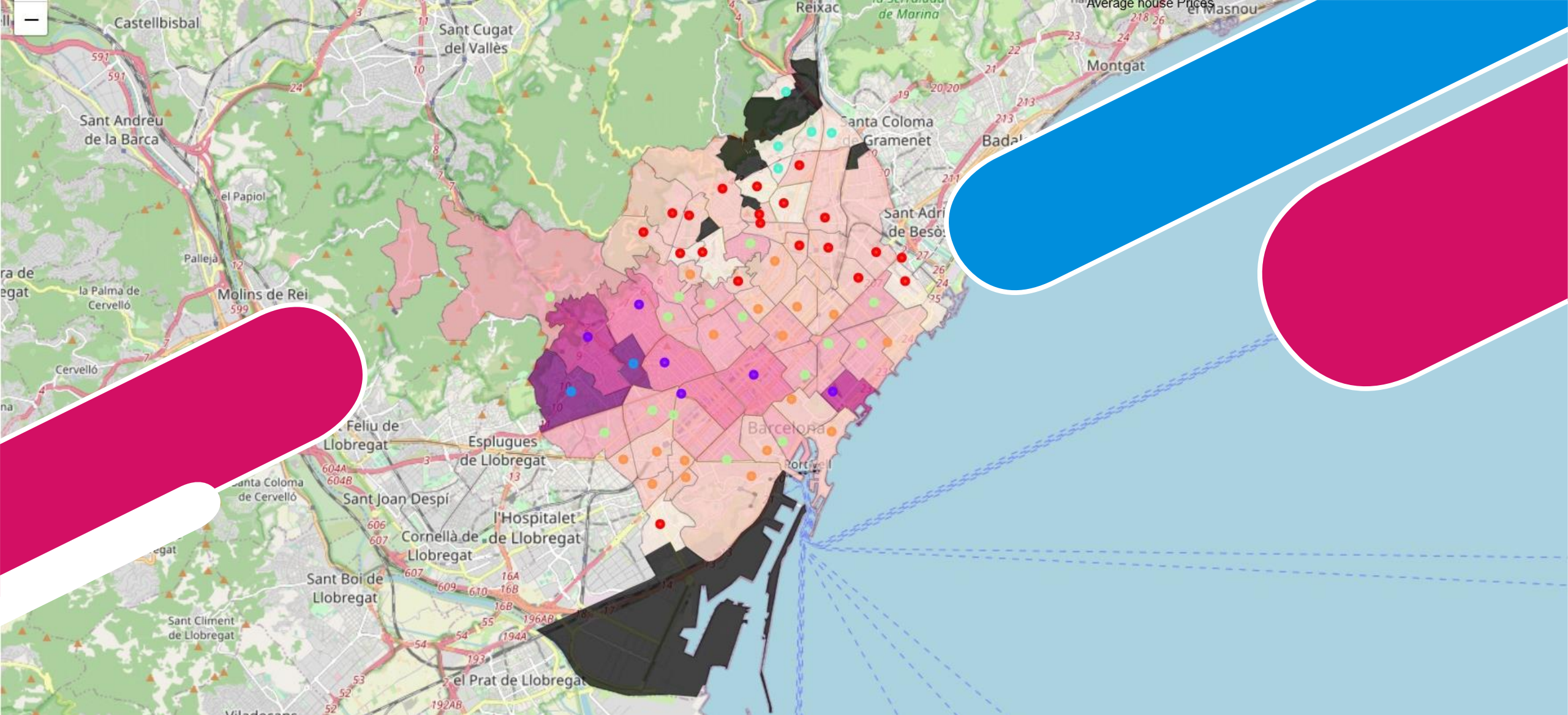
For choropleth maps I used. geojson file of Barcelona Districts / Barris

<https://github.com/martgnz/bcn-geodata>

Data Frame

The data after dropping
Null values and the
unwanted columns.

Location	Barcelona_borough	Price
Ciutat Vella	el Raval	827.3
Ciutat Vella	el Barri Gòtic	1041
Ciutat Vella	la Barceloneta	856.5
Ciutat Vella	Sant Pere, Santa Caterina i la Ribera	895.8
Eixample	el Fort Pienc	999.9
Eixample	la Sagrada Família	943.5
Eixample	la Dreta de l'Eixample	1249.4
Eixample	l'Antiga Esquerra de l'Eixample	1159
Eixample	la Nova Esquerra de l'Eixample	1029.5
Eixample	Sant Antoni	986.1



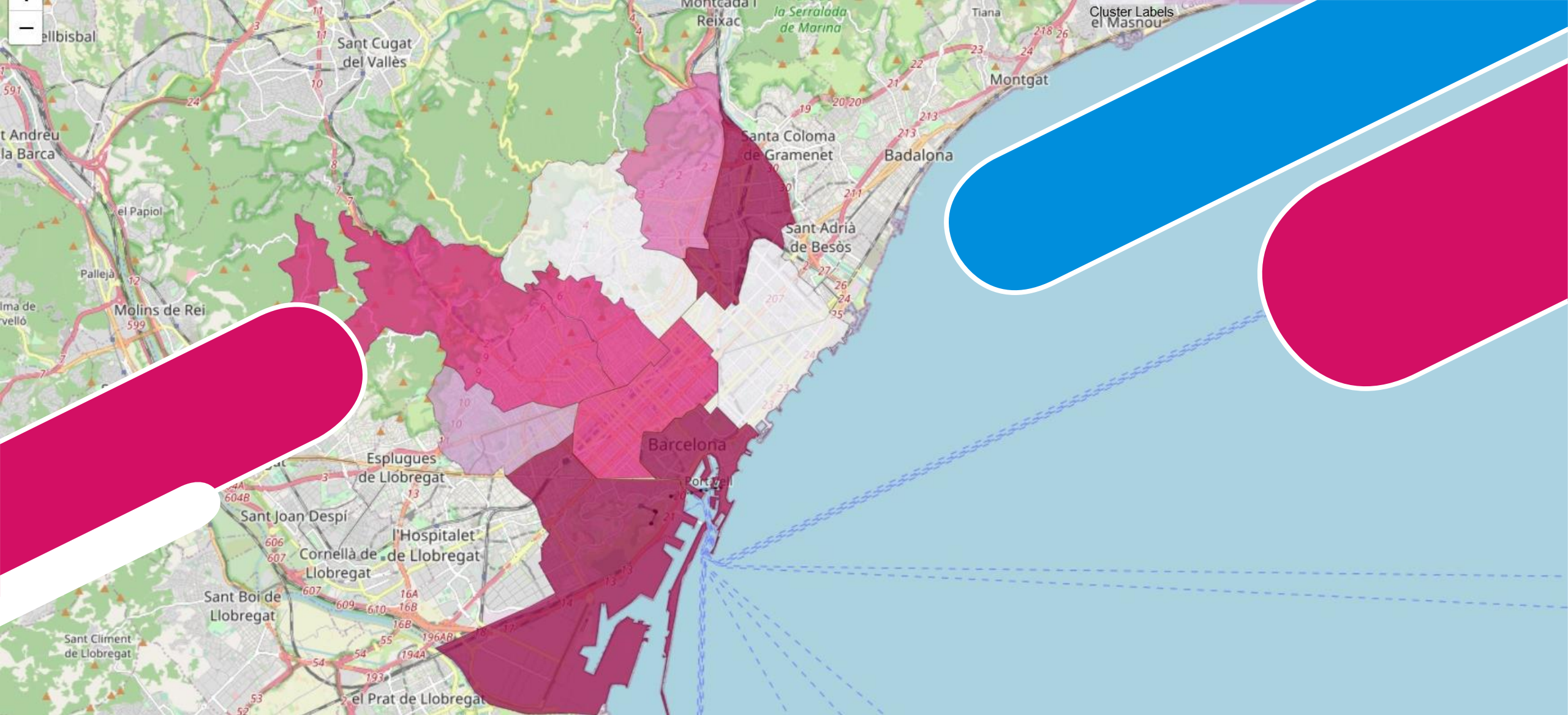
After Data Analysis and ML, I came with that: Some Boroughs such as Les Corts, Sarrià-Sant Gervasi and Sant Martí have very high house prices.



After Data Analysis and ML, I came with that: Some Boroughs such as Les Corts, Sarrià-Sant Gervasi and Sant Martí have very high house prices.



Sants-Montjuïc, Horta-Guinardó and Nou Barris Boroughs have very low house prices but have good venues to visit nearby.



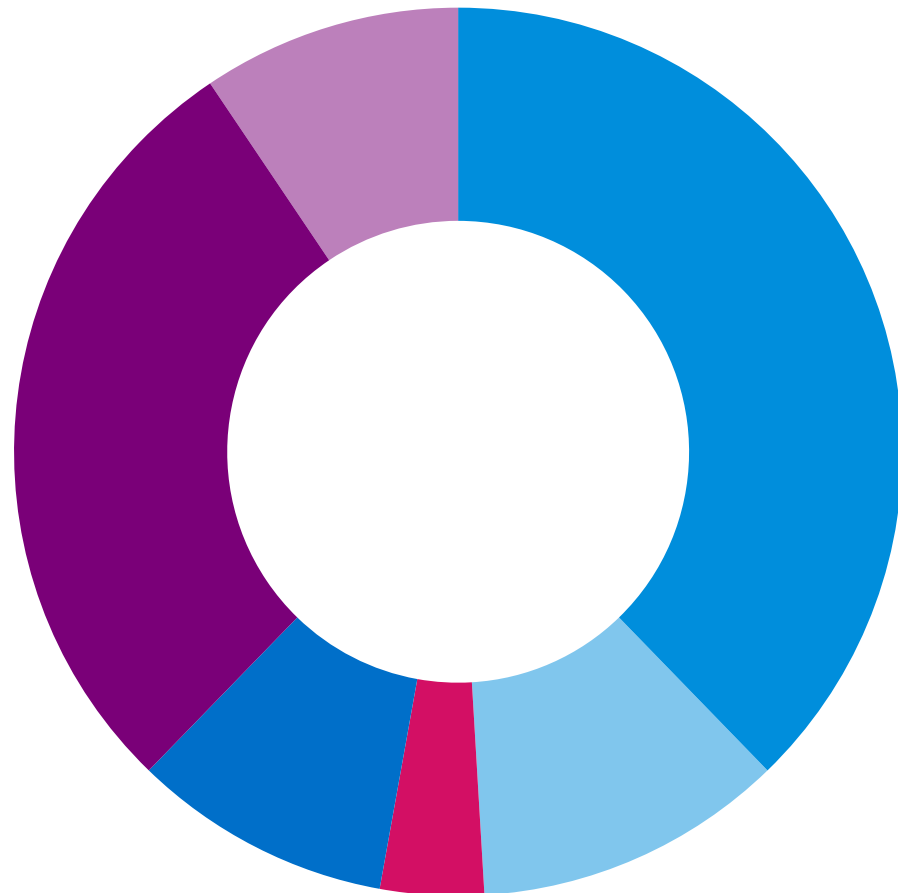


CHART SLIDE

For more charts, and the full notebook check the link in the last slide.

38%
Cluster 1

11%
Cluster 2

4%
Cluster 3

9%
Cluster 4

28%
Cluster 5

9%
Cluster 6

THANK YOU!

Omar Alsaqa

Notebook:

GitHub

LinkedIn:

Omar Alsaqa

