

# Introduction

## About Barcelona

Barcelona, the capital of Catalonia region in Spain has a population of 1.6 million within city limits. Barcelona has it all: sun, a strong economy and stunning architecture. Barcelona is ranked the most popular city to visit in Spain. It is one of the best trade fair destination in Europe.

Barcelona is unique in many aspects: the second most visited church on the planet is an unfinished “work in progress” building Sagrada Familia, it is home to the largest football stadium in Europe, it has a rich cultural heritage with many UNESCO sites, there are 4.2 km of golden sandy beaches only 10 minutes away from the city centre.

With so many places to visit, it is often hard to decide what would be the next destination point or what venues to look for.

A very interesting tourism activity report about accommodation, tourism demand and infrastructure on 2019, can be found here:

[https://ajuntament.barcelona.cat/turisme/sites/default/files/capsula\\_1\\_iatb19\\_1.pdf](https://ajuntament.barcelona.cat/turisme/sites/default/files/capsula_1_iatb19_1.pdf)

## Business problem

As corona virus changed Barcelona no from overtourism to no tourism, people are confined to their homes, it is important to promote the city and highlight the best neighbourhoods.

Unlike the financial crisis of 2008, where people lost a lot of money, this pandemic has us staying at home, refraining from spending. Once things improve, people will be thirsty for travel and experiences, with money in their pockets.

The main objective of this project will be to find the best neighbourhood to spend a vacation in Barcelona based on touristic attractions. So, as part of this project, all districts of Barcelona that have great attractions nearby will be listed and visualized.

## Target Audience

The following analysis would be very helpful for tourists that are visiting Barcelona and wish to do their liking that is closest to the accommodation. The analysis could be also used in hotel marketing strategies to increase bookings (for those hotels located on the best neighbourhoods).

## Data

### Source of the Data and methods to extract them

#### a) Neighbourhoods

The analysis will be implemented for all districts in the city of Barcelona. According to wikipedia, Barcelona is divided into 10 districts. These are administrated by a councilor designated by the main city council, and each of them have some powers relating to issues such as urbanism or

infrastructure in their area. In 2009, in Barcelona started using a new division of 73 neighbourhoods (the 10 districts are still in use), a division that was done for a better service from the City Council.

The names of the districts have been found on the official city council site:

<https://www.bcn.cat/estadistica/catala/terri/div84/convertidors/barris73.htm>

To extract data from bnc.cat site, we will use web scraping technique with the help of BeautifulSoup python package.

## b) Geocoding

We can get geographical coordinates of the neighbourhood using Python Geocoder package which will give us the latitude and longitude. But in order to understand the exact location of every district in Barcelona we need to determine the dimension of the neighbourhood.

HERE API will be used to determine this task. Alongside other platforms like Google Map or TomTom, HERE is one of the mostly used online mapping platform as it is fairly cheap compared to what other platforms currently offer. HERE is actually a freemium (a combination of the words "free" and "premium", the term *freemium* is a type of business model).

After this step our data frame will have the following structure:

- Name of the district
- Latitude coordinate
- Longitude coordinate
- District radius

## c) Venues

The most important source of the data is Foursquare. With Foursquare API we will explore a geographical location and we will get trending venues around. Using the coordinates and radius for every district, Foursquare API calls will return the top venues filtered by categories (we will focus mainly on touristic attractions).