

# Capstone Final Project - The Battle of the Neighborhoods - Exploring Bogota

Applied Data Science Capstone by IBM/Coursera

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# Introduction

We will explore Bogota city

Tourists usually want to explore variety of places when to arrive in a new region. With the skills I developed in this course I want to give a recommendation about the top venues in each district so tourist can visit them.

We will give tourist a top 5 of venues in each district where they can experiment different things. We know that tourist whenever travels to a location, he tries to find best spots around in that specific location to explore. In order to give good recommendations we will use the Foursquare API to get the venues of each district and finally recommend tourist a district, with venues where he can visit.

Bogotá is Colombia's sprawling, high-altitude capital. Bogotá has many cultural venues including museums, art galleries, library networks, stage theaters, sports and attraction parks and its a city where cuisine is really important, the restaurants across the city is the prove of that, there are many restaurants that serve typical and international food.

Note: For this problem we will use the data provided by [bogota-laburbano.opendatasoft.com](http://bogota-laburbano.opendatasoft.com) and Foursquare to get the geographical coordinates of each district and the venues.

# Description of the data

In this notebook we are going to explore Bogota's top venues.

For this analysis I choose 2 sources:

- Bogota city is divided in 20 districts: 19 urban and one rural. Many of them are the oldest towns in Colombia. Each district is conformed by a group of "UPZ" (Unidades de Planeamiento Zonal) and each UPZ is subdivided in neighborhoods. In this analysis we will explore the districts, to get the geographical coordinates of the districts we download the csv file of this site:

Link: <https://bogota-laburbano.opendatasoft.com/explore/dataset/georeferencia-puntual-por-localidad/table/>

- Using foursquare API to get the data about venues in Bogota.

With this data we can explore all the venues in each district and find out the top venues for recommendations to tourist.

# Methodology

The main moto of this project is to find best places to visit in Bogotá, Colombia based on the information of different districts and their venues.

Steps we took for the analysis:

- Collected required data: Location and category of every venue within our latitude and longitude.
- Explore districts: Given the location of each district we will explore the venues.
- Identify the best places: With the venues, identify the venues that are most attractive in each district.

# Analysis

- ***Data identification, capturing and cleaning.***

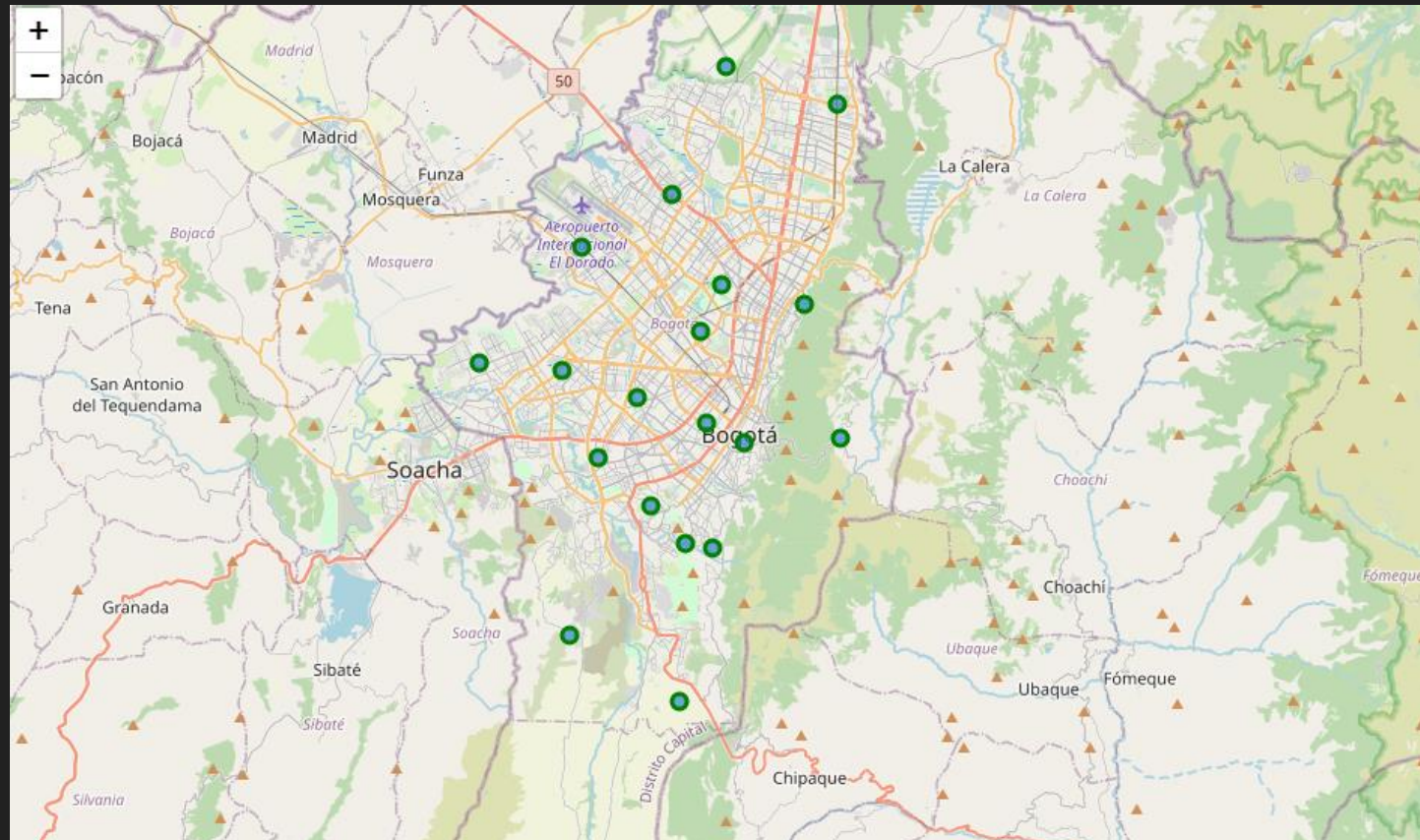
Search & Identify the relevant data source and capture it, here we used the web side with the data about the districts and corresponding latitude and longitude. Then organize the data into a Dataframe for analysis. Now the data is clean and ready to use.

- ***Visualize the data.***

Now, with the previous information we visualize it using folium map.



# Visualize the data



# Analysis

- ***Explore the Bogotá's districts.***

We explored all the districts in the city of Bogotá, using the Latitude & Longitude data, using Foresquare API to get the venues available in Bogotá. Find each district along with the top of most common venues.

- ***Identify the top 5 venues for each district.***

Finally we have a list of all districts and the top venues for tourist to visit them.



# Results

- We can see that users are recommended best places in different districts:

	District	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	ANTONIO NARINO	Burger Joint	Restaurant	Campground	Construction & Landscaping	Fish & Chips Shop
1	BARRIOS UNIDOS	Golf Course	Dessert Shop	Pizza Place	Bakery	Seafood Restaurant
2	BOSA	Restaurant	Grocery Store	Supermarket	Motorcycle Shop	Shopping Mall
3	CHAPINERO	Trail	Water Park	Diner	Construction & Landscaping	Convenience Store
4	ENGATIVA	Fast Food Restaurant	Fried Chicken Joint	Convenience Store	Burger Joint	Optical Shop
5	FONTIBON	Bar	Fried Chicken Joint	Latin American Restaurant	Furniture / Home Store	Grocery Store
6	KENNEDY	Department Store	Coffee Shop	Soccer Field	Diner	Construction & Landscaping

# Results

- We can see that users are recommended best places in different districts:

7	LA CANDELARIA	Café	Restaurant	History Museum	Latin American Restaurant	Italian Restaurant
8	LOS MARTIRES	Shopping Mall	Burger Joint	Clothing Store	Steakhouse	Deli / Bodega
9	PUENTE ARANDA	Burger Joint	Burrito Place	Grocery Store	Latin American Restaurant	Cultural Center
10	SAN CRISTOBAL	Italian Restaurant	Music Store	Construction & Landscaping	Food	Fish & Chips Shop
11	SUBA	Soccer Field	Paintball Field	Water Park	Dessert Shop	Concert Hall
12	TEUSAQUILLO	Restaurant	Hot Dog Joint	Latin American Restaurant	Peruvian Restaurant	Pizza Place
13	TUNJUELITO	Café	BBQ Joint	Bar	Fish & Chips Shop	Fast Food Restaurant
14	USAQUEN	Bookstore	Farmers Market	Café	Water Park	Diner

# Conclusion

- During the analysis I detected that there is no sufficient data about Bogota venues to make a further analysis like clustering the districts, beyond that I wanted to show the top venues of my city.
- Given an application like foursquare there is a large amount of data that anyone can have access to and the good uses for that information is in our hands.