Capstone Project

IBM Data Science Professional Certificate

Introduction

Business Problem

After losing her job, Macarena decided that the compensation money she will use in her venture: a sushi bar. It will be located in Santiago de Chile so you should investigate where is the best location.

To open a sushi place, you must use the Foursquare information on the communes or localities of Santiago (Chile). Santiago has 52 different localities (communes) and our challenge is find the best one. For this we define our target audience:

a. High schools
b. Universities
c. Offices

The above serves to ensure that we have enough customers and that we are not so close to other sushi places.

Data

From Wikipedia (tables)

Locations
https://es.wikipedia.org/wiki/Anexo:Comunas_de_Chile_por_poblaci%C3%B3n
Post Codes
https://es.wikipedia.org/wiki/Anexo:C%C3%B3digos_postales_de_Chile

From Files

Geo Location (latitude, longitude for each locality)
https://raw.githubusercontent.com/ssikam/My-Capstone-Project/master/chile%20geo%20public.csv

From Foursquare

Venues Categories https://developer.foursquare.com/docs/resources/categories

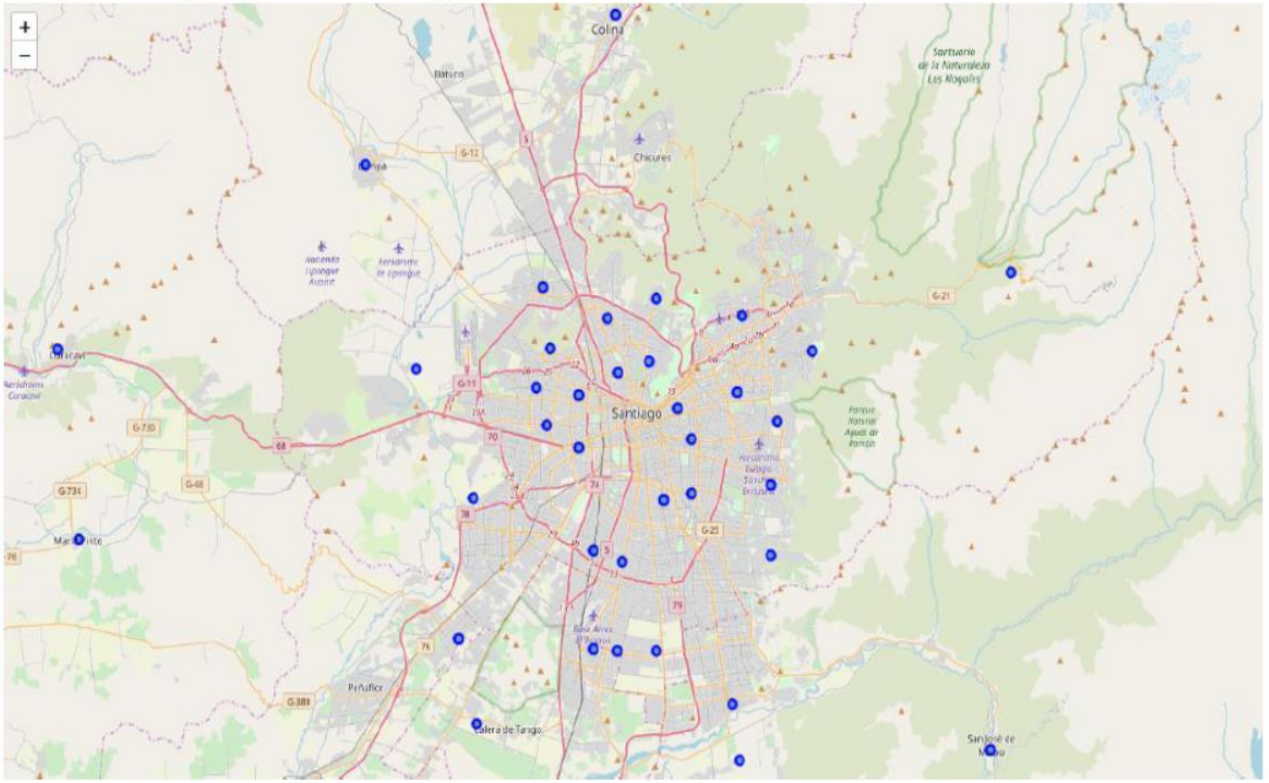
Sushi	4bf58dd8d48988d1d2941735
Highschool	4bf58dd8d48988d13d941735
University	4bf58dd8d48988d1ae941735
Office	4d4b7105d754a06375d81259

Methodology

- We import the different sources of information: Locations, postal codes, geographical location. There is a total of 346 locations in Chile.
- We select only the localities of the Metropolitan Region, that is, we use the "Metropolitan of Santiago" filter, leaving a total of 52 localities.
- Join all the bases, leaving a size of (52.4)
- For each location we look for the information of sushi restaurants, schools, universities and offices from Foursquare (venues)
- For each locality we group and count each one of the 4 categories
- We define weights for each category, depending on the recurrence that may have in our sushi bar
  - Sushi restaurant: -1 points
  - Schools: 1 point
  - Universities: 2 points
  - Offices: 3 points
- For each location we calculate a final score and order the resulting data from highest to lowest. The place with the highest score will be where we will put our sushi bar.

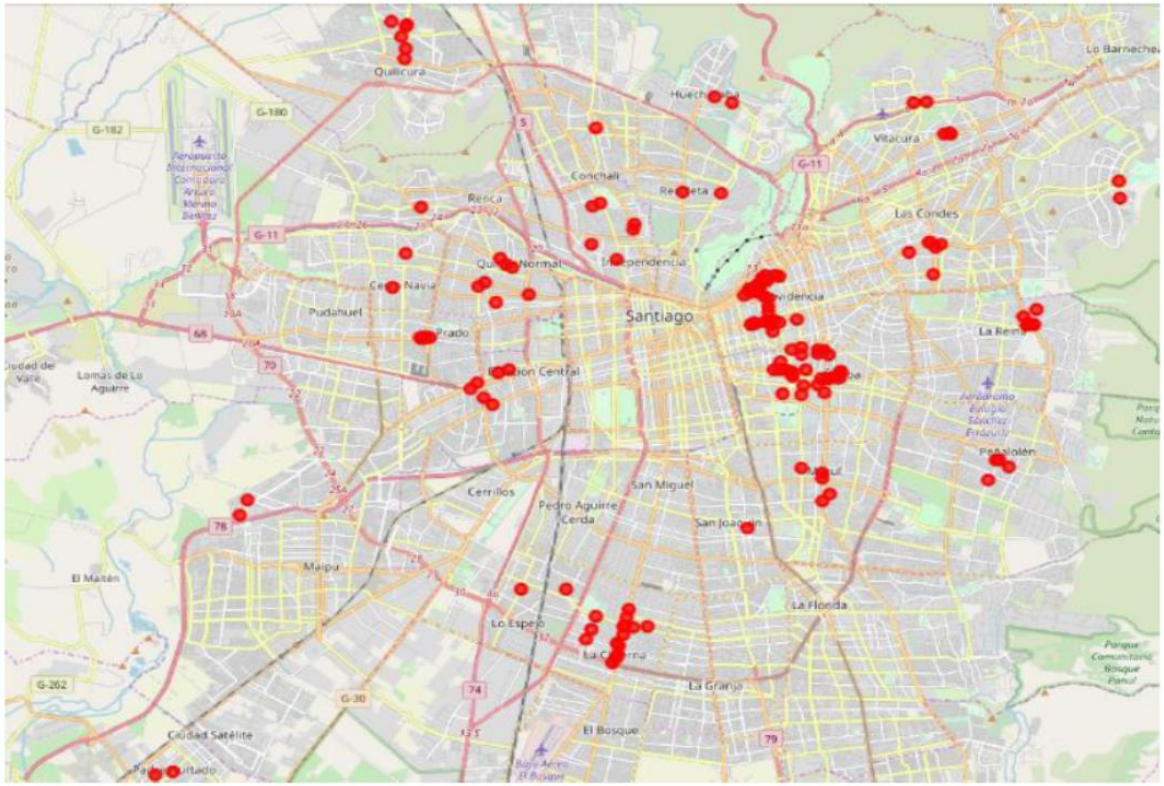
Results

Map "Metropolitana de Santiago" Localities



Results

Sushi Restaurant in Santiago



Results

Score results

	Localidad	Score
16	Providencia	234.0
5	Las Condes	215.0
32	San Joaquin	179.0
2	Santiago	158.0
9	Ñuñoa	158.0
12	Recoleta	156.0
14	Estación Central	152.0
44	Curacavi	152.0
25	Lampa	152.0
21	Macul	151.0
27	Independencia	151.0
6	Peñalolén	151.0
4	San Bernardo	150.0

	Localidad	Score
26	Pedro Aguirre Cerda	149.0
18	Conchali	148.0
28	Lo Espejo	148.0
33	La Reina	148.0
10	La Pintana	146.0
19	Melipilla	146.0
39	Talagante	145.0
35	La Cisterna	145.0
31	Lo Prado	144.0
29	Huechuraba	144.0
36	Vitacura	144.0
8	Quilicura	143.0
22	Quinta Normal	143.0

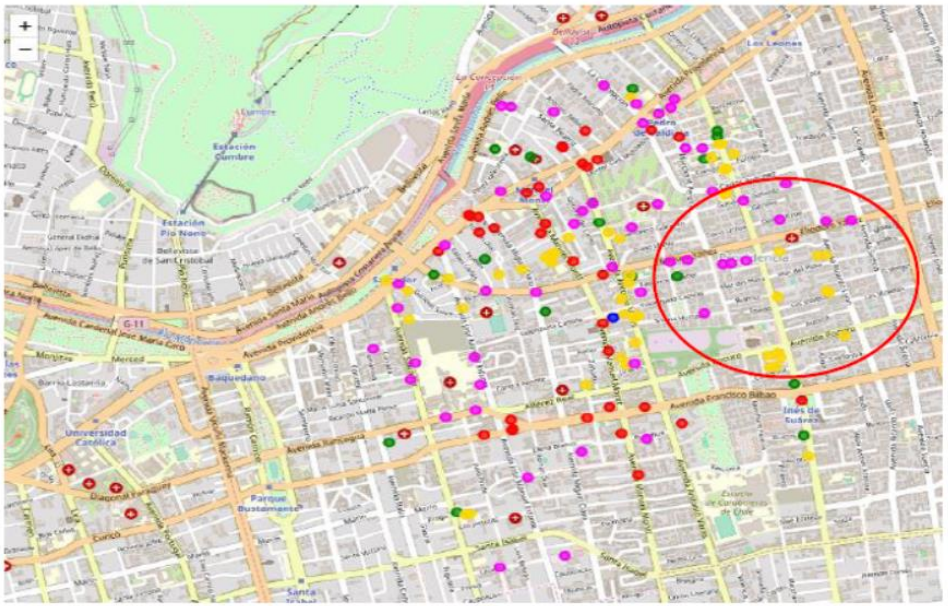
	Localidad	Score
17	Cerro Navia	140.0
30	Buin	139.0
0	Puente Alto	137.0
13	Renca	132.0
15	Colina	128.0
48	San José de Maipo	83.0
3	La Florida	54.0
47	Tiltil	51.0
1	Maipú	47.0
42	Isla de Maipo	33.0
49	Maria Pinto	33.0
43	El Monte	33.0
51	Alhué	33.0

	Localidad	Score
41	Padre Hurtado	27.0
46	Calera de Tango	24.0
40	Paine	21.0
7	Pudahuel	12.0
50	San Pedro	6.0
45	Pirque	3.0
20	La Granja	3.0
24	Lo Barnechea	0.0
38	Cerrillos	0.0
37	San Ramón	0.0
11	El Bosque	0.0
34	Peñaflor	0.0
23	San Miguel	0.0

The locality with best score is “Providencia” with 234 pts.
With this result we maximize the number of potential customers who will visit our sushi bar.

Discussion

Providencia



- The red dots are the competition. If we review the places in depth, our sushi bar should be located where the yellow, green and fuchsia dots are concentrated.
- We can see that the best location then is on Eliodoro Yáñez street.
- To improve the analysis, we can add more competitors, for example, night bars.