



# Capstone Project

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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](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](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

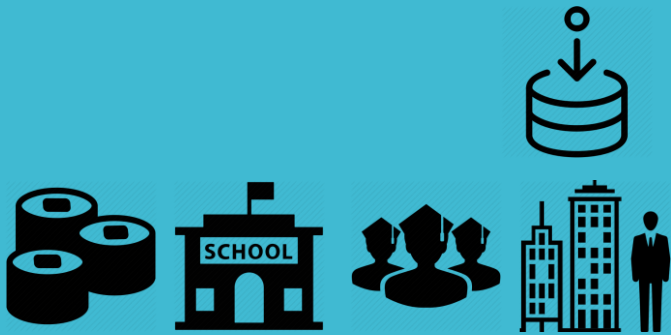
4bf58dd8d48988d13d941735

University

4bf58dd8d48988d1ae941735

Office

4d4b7105d754a06375d81259



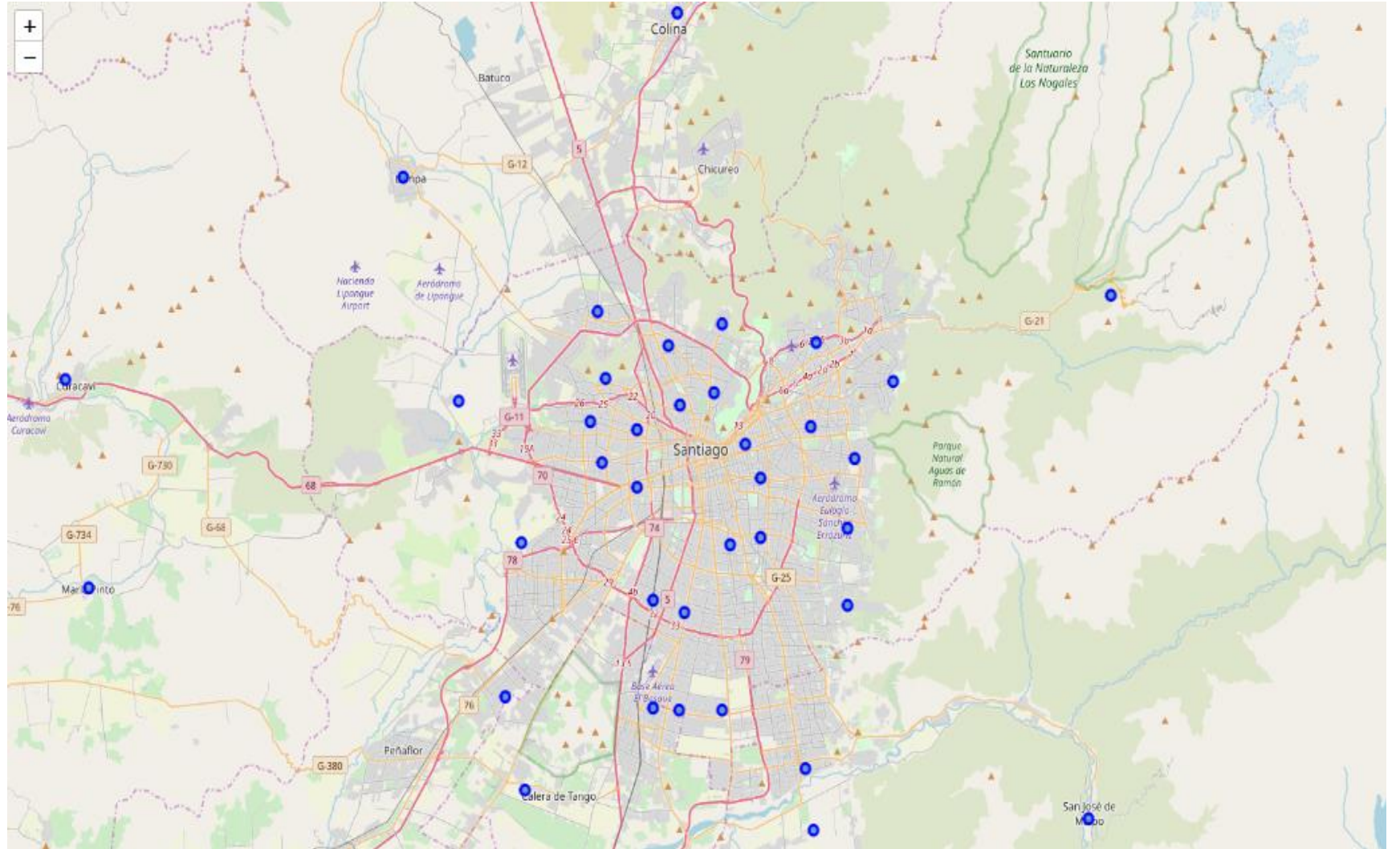
# Methodology



- 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

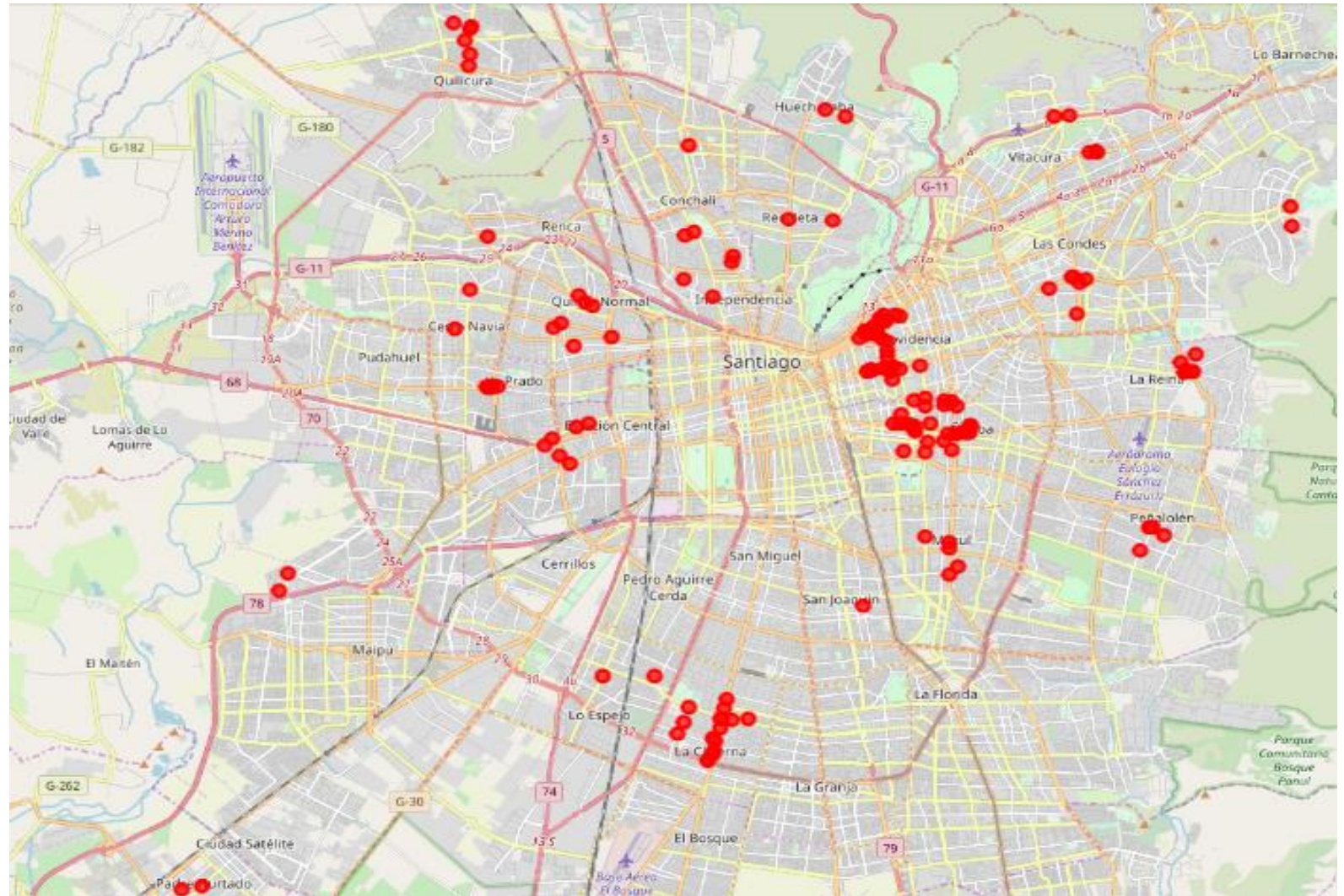
Map “Metropolitana de Santiago” Localities





# Results

## Sushi Restaurant in Santiago



# Results

## Score results

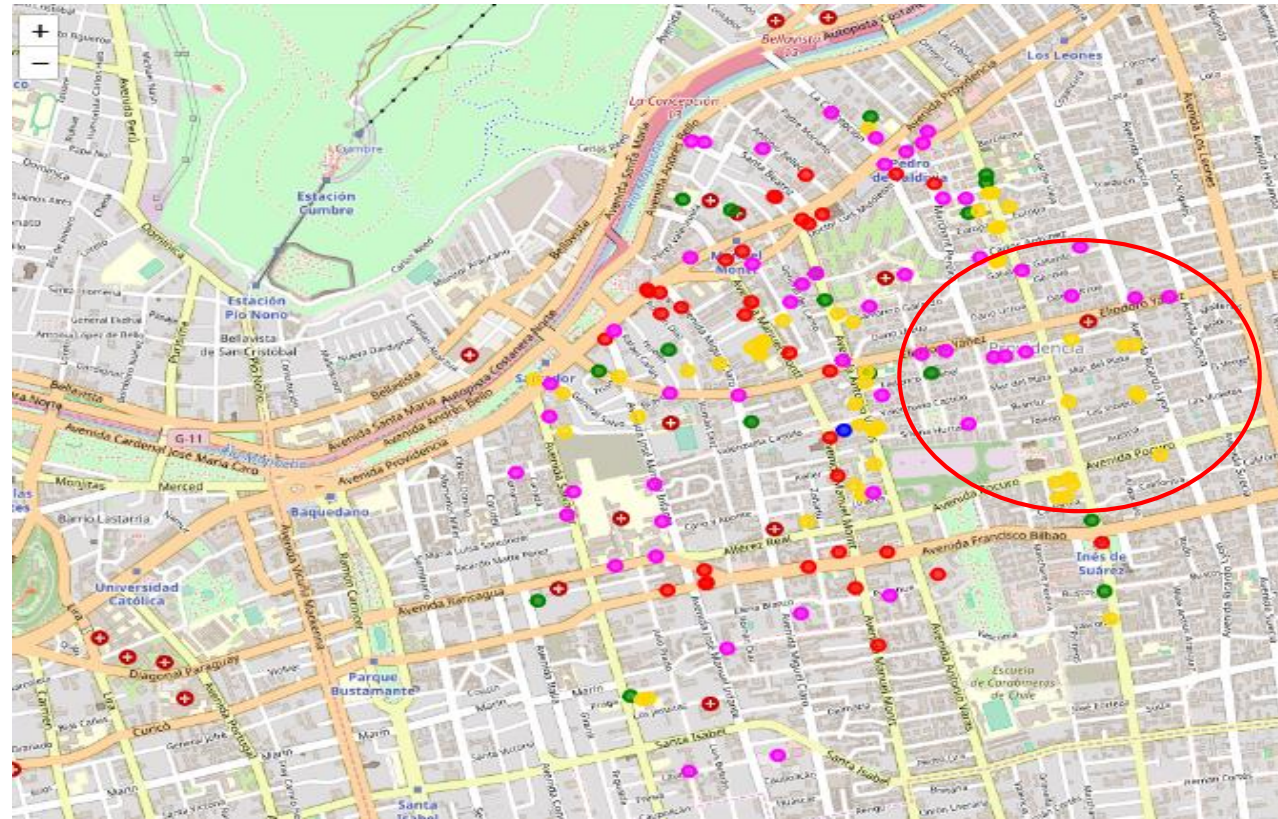
	Localidad	Score		Localidad	Score		Localidad	Score		Localidad	Score
16	Providencia	234.0	26	Pedro Aguirre Cerda	149.0	17	Cerro Navia	140.0	41	Padre Hurtado	27.0
5	Las Condes	215.0	18	Conchalí	148.0	30	Buín	139.0	46	Calera de Tango	24.0
32	San Joaquín	179.0	28	Lo Espejo	148.0	0	Puente Alto	137.0	40	Paine	21.0
2	Santiago	158.0	33	La Reina	148.0	13	Renca	132.0	7	Pudahuel	12.0
9	Ñuñoa	158.0	10	La Pintana	146.0	15	Colina	128.0	50	San Pedro	6.0
12	Recoleta	156.0	19	Melipilla	146.0	48	San José de Maipo	83.0	45	Pirque	3.0
14	Estación Central	152.0	39	Talagante	145.0	3	La Florida	54.0	20	La Granja	3.0
44	Curacaví	152.0	35	La Cisterna	145.0	47	Tiltil	51.0	24	Lo Barnechea	0.0
25	Lampa	152.0	31	Lo Prado	144.0	1	Maipú	47.0	38	Cerrillos	0.0
21	Macul	151.0	29	Huechuraba	144.0	42	Isla de Maipo	33.0	37	San Ramón	0.0
27	Independencia	151.0	36	Vitacura	144.0	49	María Pinto	33.0	11	El Bosque	0.0
6	Peñalolén	151.0	8	Quilicura	143.0	43	El Monte	33.0	34	Peñaflor	0.0
4	San Bernardo	150.0	22	Quinta Normal	143.0	51	Alhué	33.0	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.





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