



# Commercial Leads in Porto Alegre - Brazil



# Introduction:

My name is Murat, and I am a software developer. As any company, we can have problems in working with data of venues of our neighborhood.

My objective with this project is to enhance our commercial leads and discover new venues for contact.

# Initial Data

The first thing that we need, is a list of neighborhoods of my city in Brazil. We can acquire that with the Wikipedia Link:

Lista [ editar | editar código-fonte ]

Bairro	Data de Criação	Área	População 2010	Tx Cresc Pop 91.00	Densidade	Renda média por domicílio	Nota
Aberta dos Morros	21 dez 2015						
Agronomia	21 set 1976	1241 ha	12222	19,24% a.a.	8,6 hab/ha	3,98 SM/mês	(1)
Anchieta	7 dez 1959	84 ha	203	0,51% a.a.	2,4 hab/ha	8,41 SM/mês	
Arquipélago	7 dez 1959	4718 ha	5061	9,32% a.a.	1,1 hab/ha	2,96 SM/mês	
Auxiliadora	7 dez 1959	82 ha	9985	-0,25% a.a.	121,8 hab/ha	19,57 SM/mês	
Azenha	7 dez 1959	126 ha	13449	-1,52% a.a.	106,7 hab/ha	10,73 SM/mês	(2)
Bela Vista	7 dez 1959	92 ha	9621	2,64% a.a.	104,6 hab/ha	34,68 SM/mês	
Belém Novo	12 set 1991	2925 ha	13787	2,49% a.a.	4,7 hab/ha	4,49 SM/mês	(3)
Belém Velho	24 dez 1980	866 ha	7876	4,09% a.a.	9,1 hab/ha	4,94 SM/mês	
Boa Vista	7 dez 1959	160 ha	8691	0,74% a.a.	54,3 hab/ha	25,76 SM/mês	
Bom Jesus	15 dez 1986	179 ha	28229	2,82% a.a.	157,7 hab/ha	3,97 SM/mês	(4)
Bom Fim	7 dez 1959	38 ha	11351	-0,35% a.a.	298,7 hab/ha	15,80 SM/mês	
Camapuã	7 dez 1959	224 ha	21723	-0,56% a.a.	97,0 hab/ha	6,65 SM/mês	
Campo Novo	11 mar 2011	592 ha	7652		12,9 hab/ha	4,7 SM/mês	
Cascata	21 dez 1963	691 ha	24130	2,10% a.a.	34,9 hab/ha	3,17 SM/mês	(5)
Cavalihada	7 dez 1959	357 ha	19854	0,14% a.a.	55,6 hab/ha	7,48 SM/mês	
Centro	7 dez 1959	228 ha	36862	-1,76% a.a.	161,7 hab/ha	12,61 SM/mês	(2)
Chácara das Pedras	7 dez 1959	102 ha	7034	1,24% a.a.	69,0 hab/ha	20,68 SM/mês	
Chapéu do Sol	11 mar 2011						
Cidade Baixa	7 dez 1959	79 ha	16634	-1,72% a.a.	210,6 hab/ha	11,20 SM/mês	(2)
Coronel Aparício Borges	7 dez 1959	278 ha	22786	2,93% a.a.	82,0 hab/ha	4,33 SM/mês	
Cristal	7 dez 1959	270 ha	21054	-0,22% a.a.	78,0 hab/ha	8,53 SM/mês	
Cristo Redentor	7 dez 1959	148 ha	16103	0,65% a.a.	108,8 hab/ha	10,61 SM/mês	
Espírito Santo	7 dez 1959	174 ha	5734	1,09% a.a.	33,0 hab/ha	11,02 SM/mês	
Farrapos	17 nov 1988	165 ha	17019	2,68% a.a.	103,1 hab/ha	3,00 SM/mês	

# Initial Data

We can import the data using the tool beautiful soup from Python.

Out[4]:

	Neighborhood	Data de Criação	Área	População2010	Tx Cresc Pop 91-00	Densidade	Renda média por domicílio	Nota
0	Aberta dos Morros	21 dez 2015						
1	Agronomia	21 set 1976	1241 ha	12222	19,24% a.a.	8,6 hab/ha	3,98 SM/mês	(1)
2	Anchieta	7 dez 1959	84 ha	203	0,51% a.a.	2,4 hab/ha	8,41 SM/mês	
3	Arquipélago	7 dez 1959	4718 ha	5061	9,32% a.a.	1,1 hab/ha	2,96 SM/mês	
4	Auxiliadora	7 dez 1959	82 ha	9985	-0,25% a.a.	121,8 hab/ha	19,57 SM/mês	
5	Azenha	7 dez 1959	126 ha	13449	-1,52% a.a.	106,7 hab/ha	10,73 SM/mês	(2)
6	Bela Vista	7 dez 1959	92 ha	9621	2,64% a.a.	104,6 hab/ha	34,68 SM/mês	
7	Belém Novo	12 set 1991	2925 ha	13787	2,49% a.a.	4,7 hab/ha	4,49 SM/mês	(3)
8	Belém Velho	24 dez 1980	866 ha	7876	4,09% a.a.	9,1 hab/ha	4,94 SM/mês	
9	Boa Vista	7 dez 1959	160 ha	8691	0,74% a.a.	54,3 hab/ha	25,76 SM/mês	
10	Bom Jesus	15 dez 1986	179 ha	28229	2,82% a.a.	157,7 hab/ha	3,97 SM/mês	(4)

Now we have the Wikipedia data as a dataframe that we can work in python



# Coordinates Data

Now, we need coordination data, as lon. and lat. to search the venues of each neighborhood.

	Bairro	Latitude	Longitude
1	Bairro		
2	Agronomia	-30.0662	-51.1500
3	Anchieta	-29.9740	-51.1729
4	Arquipélago	-29.9924	-51.2247
5	Auxiliadora	-39.0228	-51.1939
6	Azenha	-30.0508	-51.2128
7	Bela Vista	-30.0326	-51.1907
8	Belém Novo	-30.2100	-51.1767
9	Belém Velho	-30.1071	-51.1529
10	Boa Vista	-30.0239	-51.1729
11	Bom Jesus	-30.0476	-51.1532
12	Bom Fim	-30.0301	-51.2190
13	Camaquã	-30.1080	-51.2430
14	Campo Novo	-30.1305	-51.1972
15	Cascata	-30.0925	-51.1759
16	Cavalcada	-30.0943	-51.2326

I've created this dataframe myself, I searched every neighborhood on google and filled this csv file.

# Merging the data

We have the list of every neighborhood and their coordinates, so we can merge both together.

Out[6]:

	Neighborhood	Data de Criação	Área	População2010	Tx Cresc Pop 91-00	Densidade	Renda média por domicílio	Nota	Latitude	Longitude
0	Agronomia	21 set 1976	1241 ha	12222	19,24% a.a.	8,6 hab/ha	3,98 SM/mês	(1)	-30.0662	-51.1500
1	Anchieta	7 dez 1959	84 ha	203	0,51% a.a.	2,4 hab/ha	8,41 SM/mês		-29.9740	-51.1729
2	Arquipélago	7 dez 1959	4718 ha	5061	9,32% a.a.	1,1 hab/ha	2,96 SM/mês		-29.9924	-51.2247
3	Auxiliadora	7 dez 1959	82 ha	9985	-0,25% a.a.	121,8 hab/ha	19,57 SM/mês		-39.0228	-51.1939
4	Azenha	7 dez 1959	126 ha	13449	-1,52% a.a.	106,7 hab/ha	10,73 SM/mês	(2)	-30.0508	-51.2128
5	Bela Vista	7 dez 1959	92 ha	9621	2,64% a.a.	104,6 hab/ha	34,68 SM/mês		-30.0326	-51.1907
6	Belém Novo	12 set 1991	2925 ha	13787	2,49% a.a.	4,7 hab/ha	4,49 SM/mês	(3)	-30.2100	-51.1767
7	Belém Velho	24 dez 1980	866 ha	7876	4,09% a.a.	9,1 hab/ha	4,94 SM/mês		-30.1071	-51.1529
8	Boa Vista	7 dez 1959	160 ha	8691	0,74% a.a.	54,3 hab/ha	25,76 SM/mês		-30.0239	-51.1729

# Foursquare

Using Foursquare, we can obtain data from the venues that we want. And since we have organized the files, we can even obtain the venues and types of venues per neighborhood.

And finally, we can count the most popular types of venues per neighborhood and show it on a dataframe:

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue
0	Agronomia	Construction & Landscaping	Churrascaria	Bus Station	Bus Stop	Music Store	Pet Service	Department Store	Dessert Shop
1	Anchieta	Brewery	Supermarket	Brazilian Restaurant	Arts & Crafts Store	Distribution Center	Flower Shop	Event Space	Fountain
2	Arquipélago	Restaurant	Boat or Ferry	Harbor / Marina	Yoga Studio	Empada House	Food Truck	Food Court	Food & Drink Shop
3	Azenha	Café	Restaurant	Gym / Fitness Center	Chocolate Shop	Men's Store	Electronics Store	Sandwich Place	Churrascaria
4	Bela Vista	Gym / Fitness Center	Burger Joint	Spa	Café	Brazilian Restaurant	Dog Run	Bistro	Nightclub



# Conclusion

I concluded that the most popular type of venue per neighborhood is fast food restaurants and churrascarias (that means barbecue restaurant)

So, we are going to invest on products of restaurants to enhance our profits.





# Thank you!!!

Have a nice day!!!

Murat Aslan