



TOP SWISS CITY FOR YOUNGS

Where do you want to go tomorrow? 😊

Giovanni Sardelli

SUMMARY

- Introduction
- Dataset
- Metodology
- Results
- Conclusion

INTRODUCTION

- Swiss territory is heterogeneous
- Young graduates must choose which city to move to in order to continue their studies
- Youngs needs support in the choice

DATASET

- simplemaps website provides a dataset of the capitals of almost all countries

iso2	city iso3	city-ascii admin-name	lat capital	lng population	country id
828	Kandahār	Kandahar	31.6100	65.6949	Afghanistan
AF	AFG	Kandahār	admin	715542	1004003059
4923	Qalāt	Qalat	32.1123	66.8868	Afghanistan
AF	AFG	Zābul	admin	12191.0	1004016690
6506	Sar-e Pul	Sar-e Pul	36.2154	65.9325	Afghanistan
AF	AFG	Sar-e Pul	admin	NaN	1004047427
3813	Pul-e Khumrī	Pul-e Khumri	35.9511	68.7011	Afghanistan
AF	AFG	Baghlān	admin	56369.0	1004123527
5141	Mamūd-e Rāqī	Mahmud-e Raqi	35.0167	69.3333	Afghanistan
AF	AFG	Kāpīsā	admin	7407.0	1004151943
2694	Ghaznī	Ghazni	33.5633	68.4178	Afghanistan
AF	AFG	Ghaznī	admin	141000.0	1004167490

DATASET

- Filter swiss city
- Drop row with NaN data
- 28 cities to choose

	city	country	iso2	capital	population
0	Geneva	Switzerland	CH	admin	1240000.0
1	Zürich	Switzerland	CH	admin	1108000.0
3	Basel	Switzerland	CH	admin	830000.0
2	Bern	Switzerland	CH	primary	275329.0
4	Lausanne	Switzerland	CH	admin	265702.0
5	Lucerne	Switzerland	CH	admin	250000.0
6	Lugano	Switzerland	CH		105388.0
7	Biel/Bienne	Switzerland	CH		78708.0
8	Sankt Gallen	Switzerland	CH	admin	70572.0
9	Chur	Switzerland	CH	admin	38293.0
25	Schaffhausen	Switzerland	CH		33863.0
10	Fribourg	Switzerland	CH	admin	32827.0
11	Neuchâtel	Switzerland	CH	admin	31270.0
26	Sion	Switzerland	CH		28045.0
12	Zug	Switzerland	CH	admin	23435.0
27	Frauenfeld	Switzerland	CH		21979.0
28	Bellinzona	Switzerland	CH		16572.0
29	Aarau	Switzerland	CH		15501.0
30	Herisau	Switzerland	CH		15438.0
13	Solothurn	Switzerland	CH		14853.0
14	Schwyz	Switzerland	CH	admin	14177.0
15	Liestal	Switzerland	CH	admin	12832.0
31	Delémont	Switzerland	CH		11315.0
16	Sarnen	Switzerland	CH	admin	9410.0
17	Altdorf	Switzerland	CH	admin	8678.0
18	Stans	Switzerland	CH	admin	7475.0
19	Glarus	Switzerland	CH	admin	5681.0
20	Appenzell	Switzerland	CH	admin	5649.0

Table 1: sorted dataset of swiss city table

METHODOLOGY

- Explore each city with foursquare to enrich dataset
- Relevant venue data:
 - Venue name
 - Geographic coordinates
 - Venue category
- Drop from city dataset cities with less 30 venues

City Name	Venue	Venue Latitude	Venue Longitude	Venue Category
Geneva	Mövenpick Boutique	46.204839	6.145769	Ice Cream Shop
Geneva	Payot	46.203727	6.144584	Bookstore
Geneva	Brasserie Lipp	46.203286	6.144775	French Restaurant

Table 2: extract of the enriched dataset

City Name	Count
Aarau	53
Basel	65
Bern	70
Biel/Bienne	44
Geneva	100
Lausanne	100
Lucerne	100
Lugano	54
Neuchâtel	31
Sankt Gallen	47
Schaffhausen	40
Solothurn	31
Zürich	100

Table 3: Count of venues extracted by Foursquare

METHODOLOGY

- Let's start cross the data
 - Calculates the frequency of venue categories
 - Extracts top 30 venues category for each city
 - Execute k-means with kcluster = 3

City Name	Aarau	Basel	Bern	Biel/Bienne	Geneva	Lausanne	Lucerne	Lugano	Neuchâtel	Sankt Gallen	Schaffhausen	Solothurn	Zürich
Accessories Store	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0
American Restaurant	0	0	0	0	0	0.01	0	0	0	0.0212766	0	0	0
Argentinian Restaurant	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Art Gallery	0.0188679	0	0	0	0.01	0	0	0	0	0	0	0	0
...
Turkish Restaurant	0	0.0153846	0	0	0	0.01	0	0	0	0	0	0	0
Vegetarian / Vegan Restaurant	0	0	0.0142857	0	0	0.01	0.01	0.0185185	0	0	0	0	0.04
Waterfront	0	0	0	0	0.01	0	0	0	0	0	0	0	0
Wine Bar	0	0.0153846	0	0	0.02	0.01	0	0	0	0	0	0	0.02
Wine Shop	0	0	0	0	0.01	0	0	0	0	0	0	0	0

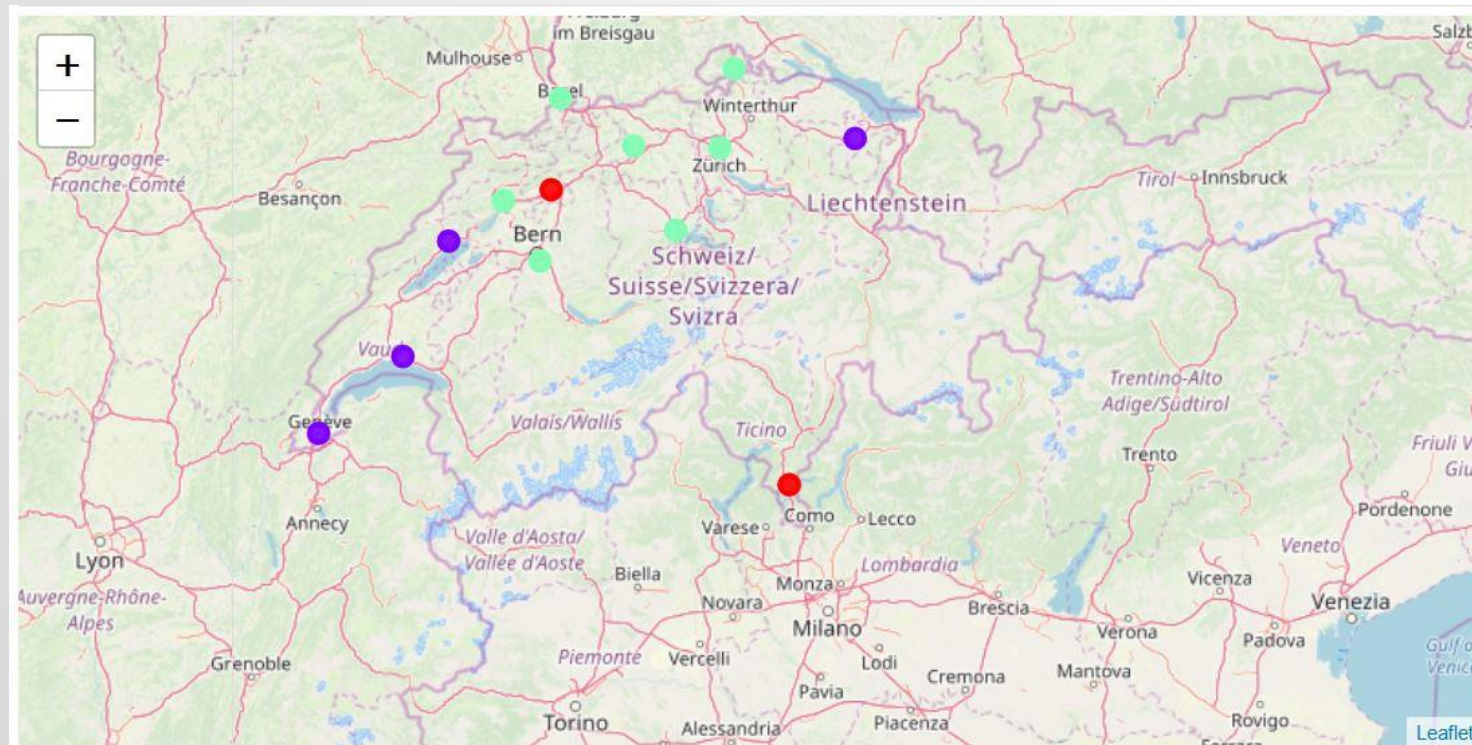
135 rows × 13 columns

RESULTS

- K-mens produced 3 clusters
- it is necessary to analyze the categories of the venues of the cities present in each cluster

cluster 1	cluster 2	cluster 3
Zürich	Geneva	Lugano
Bern	Lausanne	Solothurn
Basel	Sankt Gallen	
Lucerne	Neuchâtel	
Biel/Bienne		
Schaffhausen		
Aarau		

Table 4: cluster



- Try with word clouds!!!



CONCLUSION

- Enjoy your choice!!!!

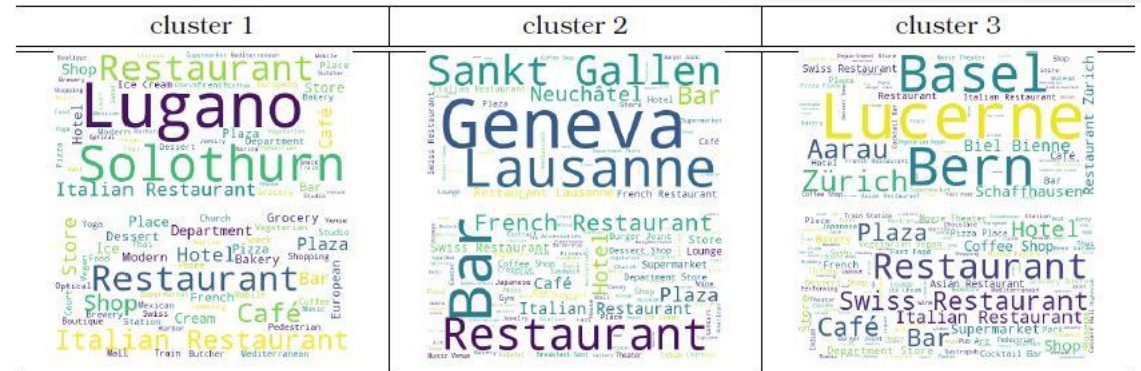
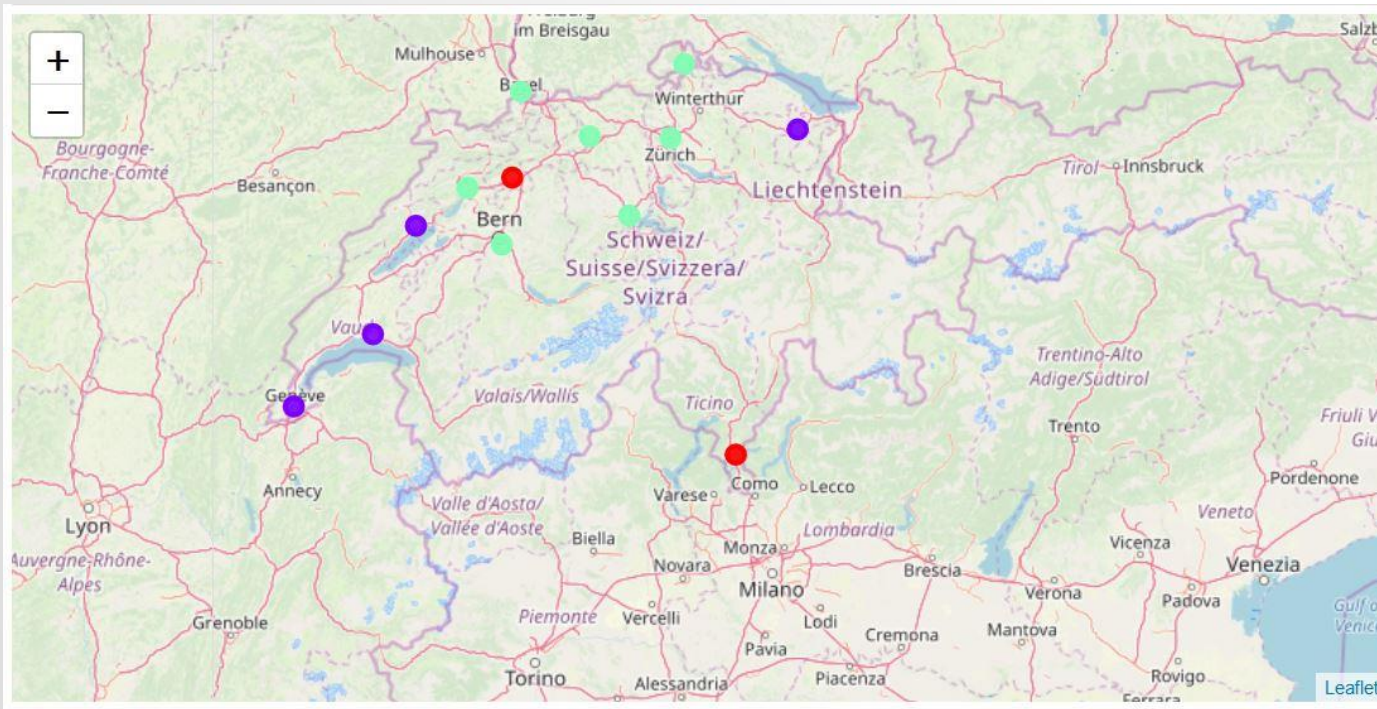


Figure 1: word clouds



“I always thought something was fundamentally wrong with the universe”
D. Adams. *The Hitchhiker's Guide to the Galaxy*. San Val, 1995.