

Capstone project: comparison of two cities, Torino and Lausanne

Introduction

This project aims at studying and comparing the two cities of Torino, Italy, and Lausanne, Switzerland, from the viewpoint of a young adult who finished his/her studies and will be soon looking for a job. The person lived in both cities during the course of his student life and liked them both. Nevertheless he/she needs a better understanding of the opportunities offered by both cities in terms of:

- Work/career
- Cultural venues
- bars/clubs
- Access to sport activities

The cities are rather different in size and possibilities they offer. Lausanne is a rather small city on the Lemman Lake shores, but it has a big urban area, especially if we include the peripheral villages. For sake of simplicity they are not included in this study. Torino is a larger city located in the Po Valley in northern Italy.

We'll be analyzing each city in its entirety and then divide them into their quarters to rank them according to the listed criteria. The collected data will allow for an informed choice about the best location overall and the best quarter to live in.

Data collection

For running the previously described analysis, we need to collect information about the geographical location of the two cities and their quarters and then we can look for venues around each neighbourhood.

The data source for finding the GPS coordinates of the cities is the geopy library. The source for finding a list of the quarters for each city is the wikipedia page dedicated to the subject:

- For Lausanne: https://fr.wikipedia.org/wiki/Liste_des_quartiers_de_Lausanne
- For Torino: https://it.wikipedia.org/wiki/Circonscrizioni_di_Torino

There's no available source for quarters coordinates in each city that is already in an organized form (csv file or similar), so I needed to copy and paste the coordinates for each quarter. For Lausanne from the Wikipedia page listed above we can find links to pages dedicated to each quarter separately. On these pages we find the GPS coordinates in DMS form. In order to convert them to DD format I used the website <https://www.latlong.net/degrees-minutes-seconds-to-decimal-degrees> for the conversion from

DMS to DD coordinates. Lausanne has 18 quarters according to the Wikipedia page and I used exactly that administrative organisation to organize my data.

Torino is divided into 35 quarters. Since the number seemed to be too high to show data about each one of them, I decided to take into account a higher level administrative division, the “circonscrizione”, a group of quarters. There are 8 “circonsrizioni” in Torino. I could not find an official geographical coordinate for each one of them, so I chose them visually on google maps using [this map](https://it.wikipedia.org/wiki/Circonsrizioni_di_Torino#/media/File:Circonsrizioni_torino_2016.png) as reference: https://it.wikipedia.org/wiki/Circonsrizioni_di_Torino#/media/File:Circonsrizioni_torino_2016.png.

The source for collecting information about the different venues is FourSquare and its API, the one we used during the Capstone course.