Trending Business Ventures in Zurich, Switzerland

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1 Introduction

Switzerland is vibrant and international. Even though migrating to Switzerland is not an easy task, it's still every ones dream to live and explore different parts of Switzerland. The aim of this capstone project is to demonstrate how Foursquare API can be used to explore and compare cities in Canton Zurich, Switzerland. This project will help people in exploring better facilities around their neighborhood in Zurich. It will help people making smart and efficient decision on selecting great neighborhood out of numbers of other neighborhoods in Zurich, Switzerland.

1.1 Background

From the lectures, we have seen how Foursquare location data can be used to extract information. This project will apply the skills that are acquired from the lessons such as how to construct a URL to send a request to the API to search for a specific type of venues, to explore a particular venue, to explore a geographical location, and to get trending venues around a location. Also, this project covers the visualization library, Folium, to visualize the results.

1.2 Problem Statement

Every tourist who visit a new city always ask the same kind of questions like, "Where can I have the best food?", "What are the best venues to visit nearby?". The major purpose of this project, is to **recommend the user with top 5 Restaurants and top 10 venues** which are available nearby.

1.3 Interest of the Economy

Obviously, Tourism departments, Restaurants and other business people can use this model to increase their public audience and thereby improving their business. Also, this model provides an overview of the provinces (Bezirk) in Switzerland, which they can use for planning their business ventures. Note: due to the API request limitation, this project analyse only the City (Canton) Zurich.

2 Methodology and Data Sources

This section explains the methods used in this project. To begin with, this project would use Foursquare API as its prime data gathering source as it has a database of millions of places, especially their places API which provides the ability to perform location search, location sharing and details about a business. Using credentials of Foursquare API features of near-by places of the neighborhoods would be mined. Due to http request limitations the number of places per neighborhood parameter would reasonably be set to 50 and the radius parameter would be set to 500.

Furthermore, we are going to explore, segment, and cluster the neighborhoods in the city Zurich, Switzerland based on the postalcode and Bezirk(Province) information. And also, we find out the top 5 restaurants and top 10 venues around each province in Zurich. There are lot of open datasets available which contains the information regarding the Postalcode, Latitude, Longitude and the City information of Switzerland. I used the dataset available from a Github repository which has all the information we need to explore and cluster the neighborhoods in Zurich [1]. Therefore we wrangle this data, clean it, and then filter it into a pandas dataframe so that it is in a structured format as per our requirement.

The Dataset consist of several features as explained below. We filter the entire dataset and take out only the Zurich City data, which is where state is represented as ZH. Later among the features we use the zipcode, state, Latitude, Longitude features for the analysis.

- country_code : CH means Switzerland
- zipcode : Which is the Postal Code
- place : Main City name
- state : The state or Canton in Switzerland
- state_code : Corresponding state code
- province : The district
- province_code : Corresponding District code
- community : Local Community
- community_code : Corresponding Local Community code
- latitude : Latitude Information
- longitude : Longitude Information

3 Exploratory Data Analysis

4 Modelling

5 Results and Conclusion

References

[1] Github-Account, “Reference to the dataset.” [Online]. Available: https://raw.githubusercontent.com/zauberware/postal-codes-json-xml-csv/master/data/CH/zipcodes.ch.csv