

Coursera Capstone Project

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1. Introduction :

Description of the Problem and Background

I am a data scientist residing in Berlin, Germany. I study and work in Berlin and I notice how much tourists come to Berlin.

Because it's the capital, cheap, cool and full of nice places to visit, Berlin is always full of tourists.

You can find all type of cultures, restaurants, museums, parks, coffee shops, gift shops.

So usually as a tourist you will go to the center of Berlin (Alexanderplatz) because it's the center and full of life, shops, museums, parks, and cool places to see.

So, after a long walk and taking some nice pictures, you want to drink a nice coffee in a nice coffee shop there in the center. Of course, you want to visit a good and nice coffee shop there and after your coffee maybe you want to explore the area of the selected coffee shop and you want to discover it, for that we will use the Foursquare API to find the coffee shop that we want.

Business Problem:

The challenge is to find a good and nice coffee shop (or restaurant) that fit our location, price and venues. The data required to resolve this challenge is described in the following section 2, below.

Interested Audience

I believe this is a relevant challenge with valid questions for anyone moving or going to visit another city. The same methodology can be applied in accordance to demands as applicable. This case is also applicable for anyone interested in exploring starting or locating a new business in any city. Lastly, it can also serve as a good practical exercise to develop Data Science skills.

2. Data

Description of the Data

Data that we need

- The latitude and longitude of the location where we will be (the center of Berlin).
- The latitude and longitude of the coffee shops near to our location.
- List of rating and tips for the selected coffee shops in the.
- List of location data for the places in the coffee shop area to explore (latitude and longitude)

How the data will be used

- We will get the (lat-long) of the location from geocode and Nominatim
- We will use our personal information (CLIENT_ID, CLIENT_SECRET, ACCESS_TOKEN, VERSION) from Foursquare
- We will call the API from Foursquare and search for the information that we want (coffee shops)
- We will get the data as a list
- We will change it and display it in json format
- We will clean and filter our data to have better view
- We will use Folium to visualize our data in Berlin map
- We will mark the center of Berlin with red circle and the coffee shops with blue circle
- We will take the id of any interested location and search for rating and tips
- From foursquare we can get a list of the rating (in a case that someone rated this coffee shop)
- We can show the rates and tips to read what the others wrote about this coffee shop

3.Results and Discussion section

Our analysis shows that although there is a great number of coffee shops in Berlin . in all direction from the center (Alexander platz) you can find great areas with great coffee shops. with our analyses we could find a nice coffee shop in a nice area and at same time we could find and read the rating and tips. after that we can continue our tour and explore the area in the place where we drink our coffee.

4.Conclusion section

Purpose of this project was to identify Berlin areas close to center with coffee shops. By finding and visualizing coffee shops from Foursquare data we have first identified general coffee shops that justify further analysis, and then we explored the area of selected coffee shops so we can continue our tour.

Final decision on optimal coffee shop's location will be made by tourists based on specific characteristics of rates, tips and locations in every recommended zone.