

CapstoneProject_TheBattleofNeighborhoods_TomasBvoc

COURSERA – IBM Data Science Professional Certificate

Capstone Project

The Battle of Neighborhoods

Location recommendation for a new coffee place in Bratislava

Tomas Bvoc

July/August 2020

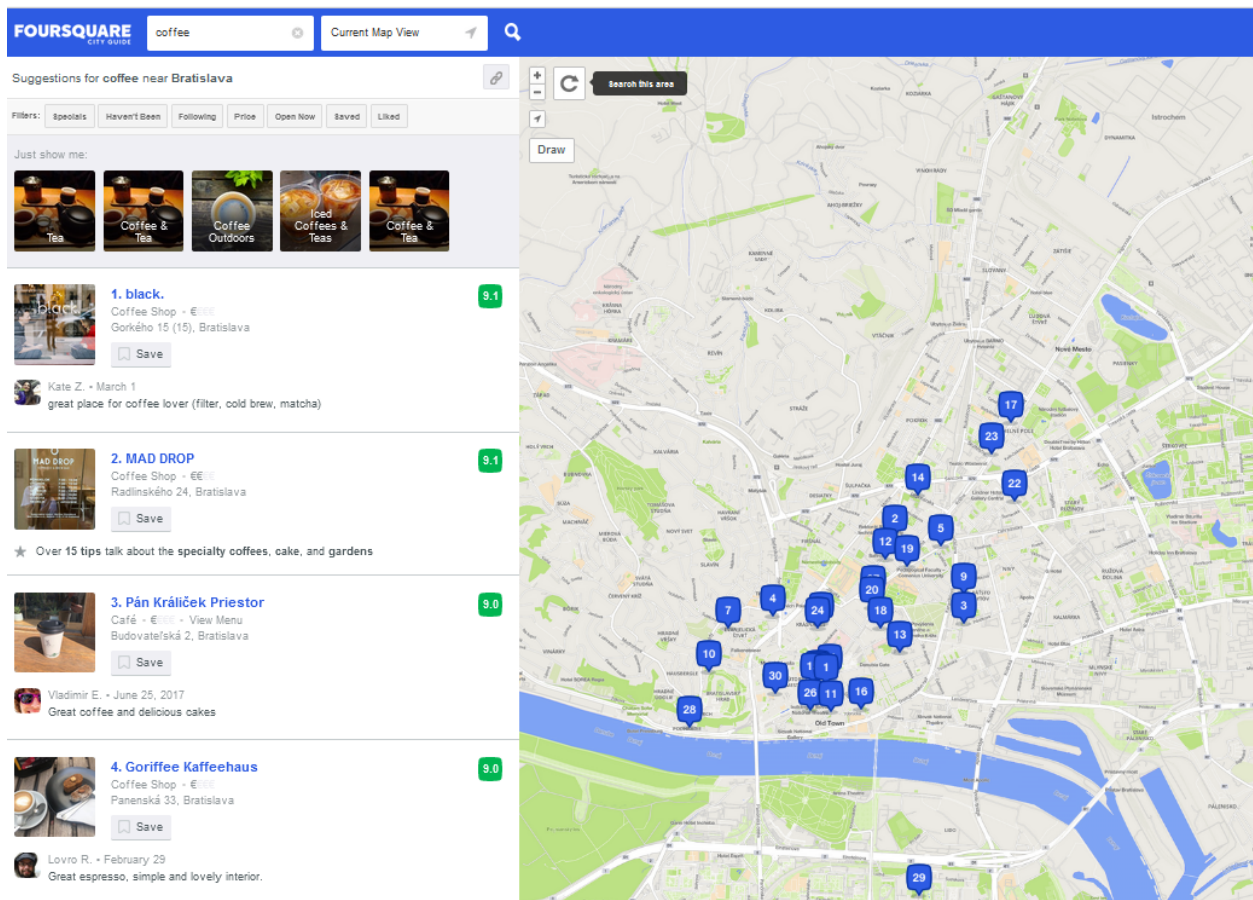
Content

- 1. Introduction (Business idea)**
- 2. Data**
- 3. Methodology / Solution**
- 4. Result**
- 5. Discussion**
- 6. Conclusion**

1. Introduction

I can see on my own eyes, that Bratislava, as my hometown, has been developing rapidly in recent years and becoming a cosmopolitan city. There is a special area close to Danube river, so-called Modern downtown, and I live close to it. Well, let's consider I wish to open a café & coffee shop in this developing borough. Second crucial attribute, as a prerequisite, is to find a place not far away from my own apartment (Mileticova 27). I consider as very important to be able to handle to reach it by walk or bicycle easily - it will help me to spare time and to reduce my cost slightly.

Now, the third attribute needed to find out the correct location where to start a new coffee business. Not too close of existing cafés, not too far from the heart of the freshly growing area.



2. Data

To explore the neighborhoods and coffee places in Bratislava city, I will need a list of Coffee places in Bratislava. I'm about to use Foursquare API <https://foursquare.com/>. With this data source I'm able to identify existing coffee places around the specified point (my living place).

Data will be inserted into single dataframe with main characteristics : Name of the coffee place; Geographical data – coordinates (Latitude and Longitude) and Address. Some additional data are collected, but let us consider they are not important for the analysis.

Pre-processing of data will be needed – cleaning, setting radius.

	name	categories	address	lat	lng	labeledLatLngs	distance	postalCode	cc	city	state	country	formattedAddress	crossStreet
0	MEM'S Coffee	Café	Košická 42	48.150238	17.134992	[[{"label": "display", "lat": 48.15023810495661, "lng": 17.134992}]]	334	821 08	SK	Bratislava	Bratislavský kraj	Slovensko	[Košická 42, 821 08 Bratislava, Slovensko]	NaN
1	Urban Coffee	Café	Plynárenská 1	48.146523	17.143003	[[{"label": "display", "lat": 48.146523, "lng": 17.143003}]]	570	821 08	SK	Bratislava	Bratislavský kraj	Slovensko	[Plynárenská 1 (Prievozská), 821 08 Bratislava, Slovensko]	Prievozská
2	Steam & Coffee	Breakfast Spot	Vajnorská 98/H	48.166435	17.137888	[[{"label": "display", "lat": 48.16643474186929, "lng": 17.137888}]]	1718	831 04	SK	Bratislava	Bratislavský kraj	Slovensko	[Vajnorská 98/H, 831 04 Bratislava, Slovensko]	NaN
3	Coffee Break	Café	Záhradnícka 61	48.154097	17.129072	[[{"label": "display", "lat": 48.15409734913596, "lng": 17.129072}]]	835	821 08	SK	Bratislava	Bratislavský kraj	Slovensko	[Záhradnícka 61, 821 08 Bratislava, Slovensko]	NaN
4	Coffee	Café	NaN	48.141931	17.128729	[[{"label": "display", "lat": 48.141931, "lng": 17.128729}]]	1282	811 09	SK	Bratislava	Bratislavský kraj	Slovensko	[811 09 Bratislava, Slovensko]	NaN
5	Timi Amo Gelato&Coffee	Cafeteria	Rumancekova 855/1	48.150253	17.156305	[[{"label": "display", "lat": 48.150253, "lng": 17.156305}]]	1262	821 01	SK	Bratislava	Bratislavský kraj	Slovensko	[Rumancekova 855/1, 821 01 Bratislava, Slovensko]	NaN
6	Coffee Brothers	Coffee Shop	Metodová	48.156748	17.130393	[[{"label": "display", "lat": 48.1567484257976, "lng": 17.130393}]]	920	NaN	SK	Bratislava	Bratislavský kraj	Slovensko	[Metodová (Jelačičova), Bratislava, Slovensko]	Jelačičova

Fig.1: Example of data (existing coffee places in Bratislava city)

3. Methodology

For the data visualization on the street map of Bratislava, Folium has been used.

3.1 Visualization

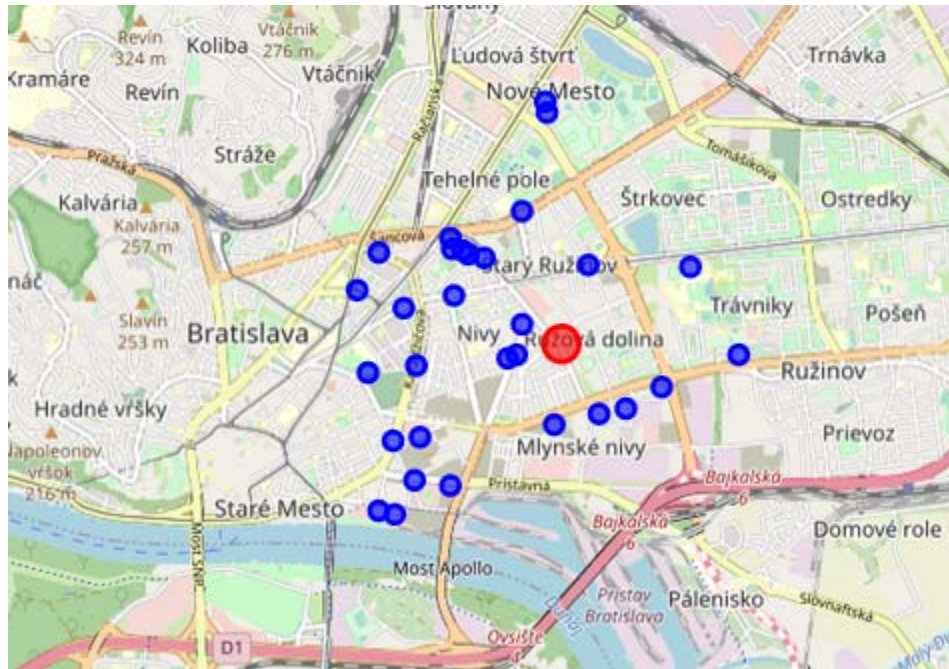


Fig.2: Map of Bratislava city with existing coffee places (blue circles) and my living place (red circle)

3.2 Heatmap

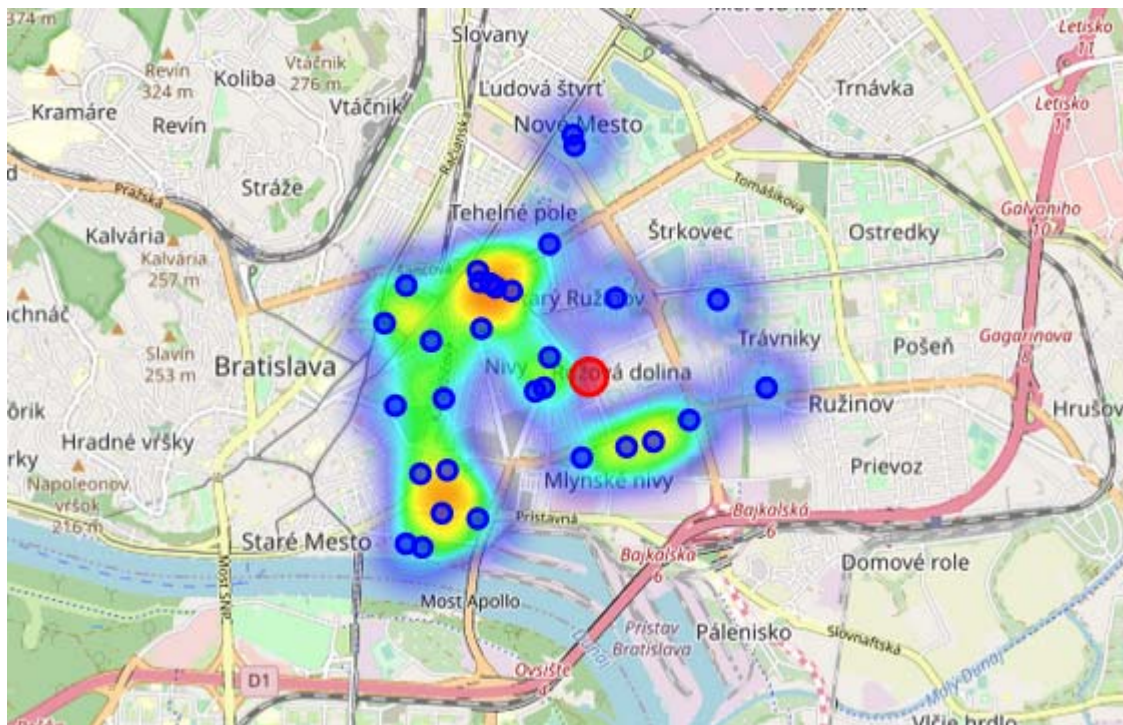


Fig.3: The "coffee-places-density map" of Bratislava city with existing coffee places (blue circles) and my living place (red circle) and the

4. Result

One of suitable places for new coffee place appears to be in the surrounding area of the crossroad of streets Košická, Svätoplukova and Mlynské Nivy.

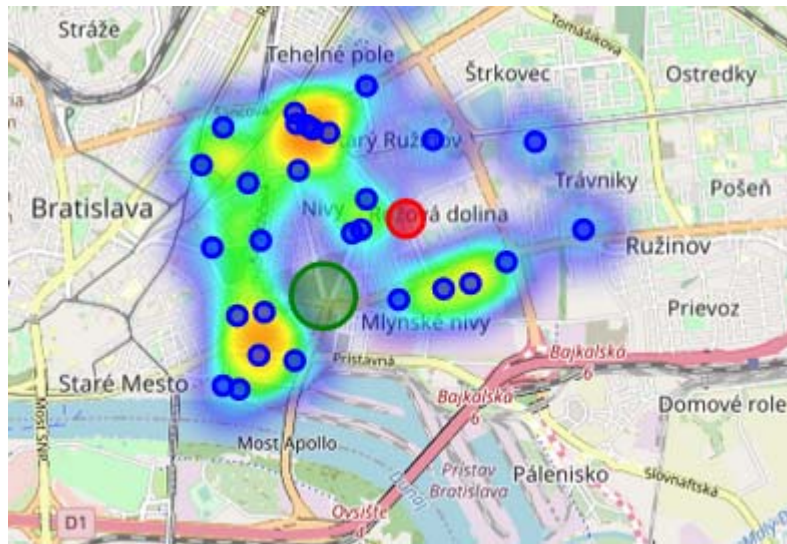


Fig.4: Green circle as suitable area for new coffee place

5. Discussions

In case more detailed and rigorous model is required, more attributes could be considered, for instance it's possible to exclude abandoned streets or areas with industry background, so called brown spots. On the other hand, in the analysis may be included factors – population density, amount of offices/shops/public transport stops.

6. Conclusion

Surrounding area of the crossroad of streets Košická, Svätoplukova and Mlynské Nivy has been identified as suitable place for new coffee place in the freshly growing new zone of Bratislava city.