Capstone Project

The Battle of the Neighborhoods

Applied Data Science Capstone by Coursera/IBM

– Regina Castra – February 2020 –

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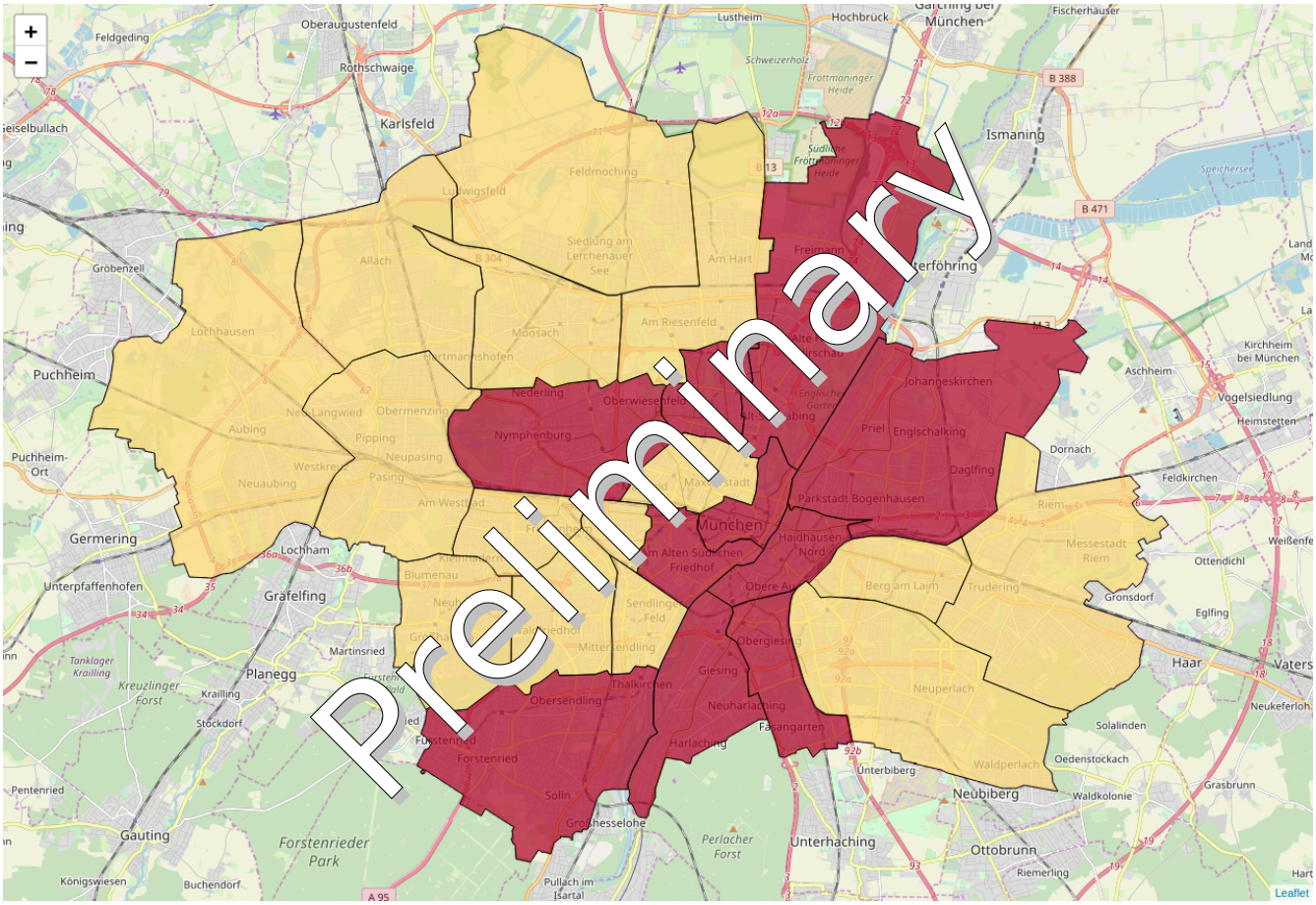

Fig. 1: Best Neighborhoods in Munich according to website www.moving-to-munich.com

1 Introduction / Business Problem

1.1 Description and Discussion of the Background

Munich is the capital and most populous city of Bavaria. With a population of around 1.5 million it is the third-largest city in Germany, according to Wikipedia. There is the website www.moving-to-munich.com which lists the Best Neighborhoods in Munich:

- Altstadt
- Au
- Bogenhausen
- Giesing (Ober- and Untergiesing)
- Haidhausen
- Isarvorstadt
- Lehel
- Neuhausen
- Schwabing
- Thalkirchen

These are roughly 10 of a total of 25 districts in Munich. Although the website describes the individual neighborhoods, it does not give precise reasons for the selection of these districts compared to the rest.

The idea of this project is to check if someone can make a similar selection based on the venues in each district. In addition, it might be possible to find neighborhoods that may have similar characteristics. These candidates would potentially have a comparable lifestyle, but probably lower rents. If you want to move to Munich then this information might be of interest for you.

1.2 Data – how will it be used to solve the problem

The investigation is based on the following sources:

- Based on the website www.moving-to-munich.com a list of the Best Neighborhoods in Munich (https://www.moving-to-munich.com/best-neighborhoods-in-munich/) is created and modified by hand to represent the *official* names of Munich's boroughs.
- All 25 *official* names of Munich's boroughs are retrieved from a Wikipedia (https://de.wikipedia.org/wiki/Stadtbezirke_M%C3%BCnchens) page.
- For visualisation purpose the borders of Munich's boroughs are obtained from the website www.arcgis.com. It provides the *vector geometries* of Munich Districts and Subdistricts for free download and use. By using mapshaper.org the data is transformed into a suitable GeoJSON file format. The border of each borough is stored as a polygon which is used to determine each borough's center and extent.
- The venue data of Munich's boroughs is retrieved by using foursquare.com. Several radii are used for obtaining some kind of robust venue list for each borough. The lists of venues for all boroughs are used and a k-means clustering method is applied to group similar neighborhoods.

The above steps should make it possible to identify neighborhoods with a similar lifestyle but probably lower rents than the Best Neighborhoods in Munich.