Data Science Capstone

Project Presentation

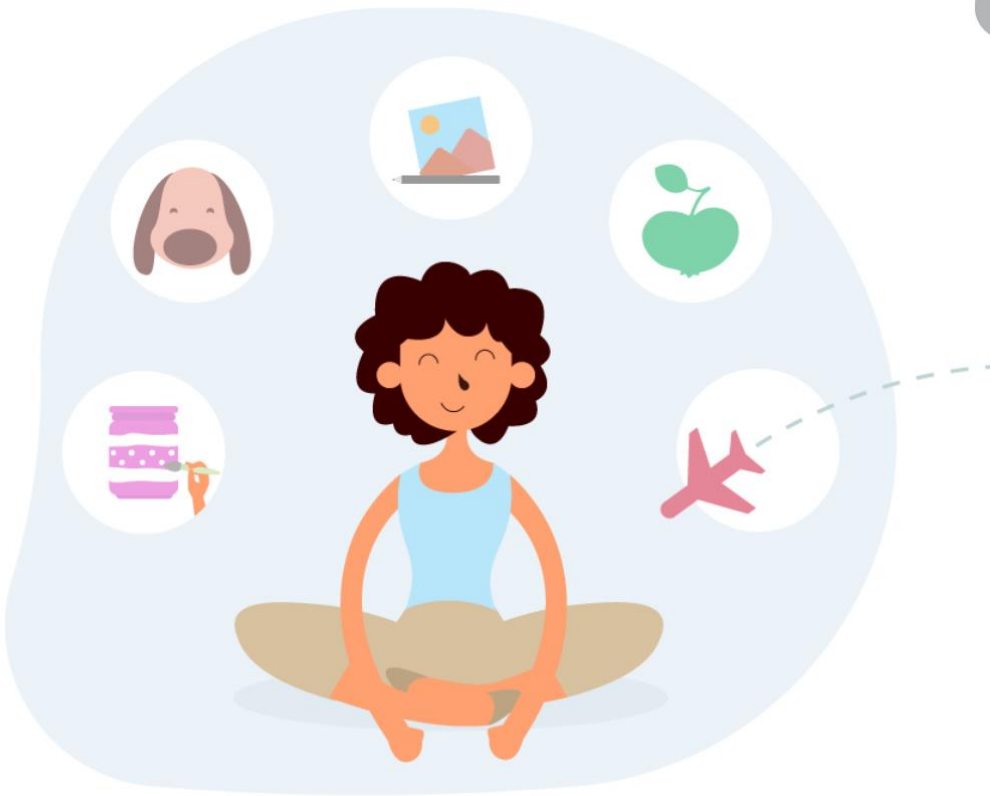
A livable city index based on individual interests

Motivation

City livability index

?

Personal interests



Data

- Foursquare API for
  - Venue categories for diverse interests and hobbies of individuals
  - Large numbers of venues at a specific location

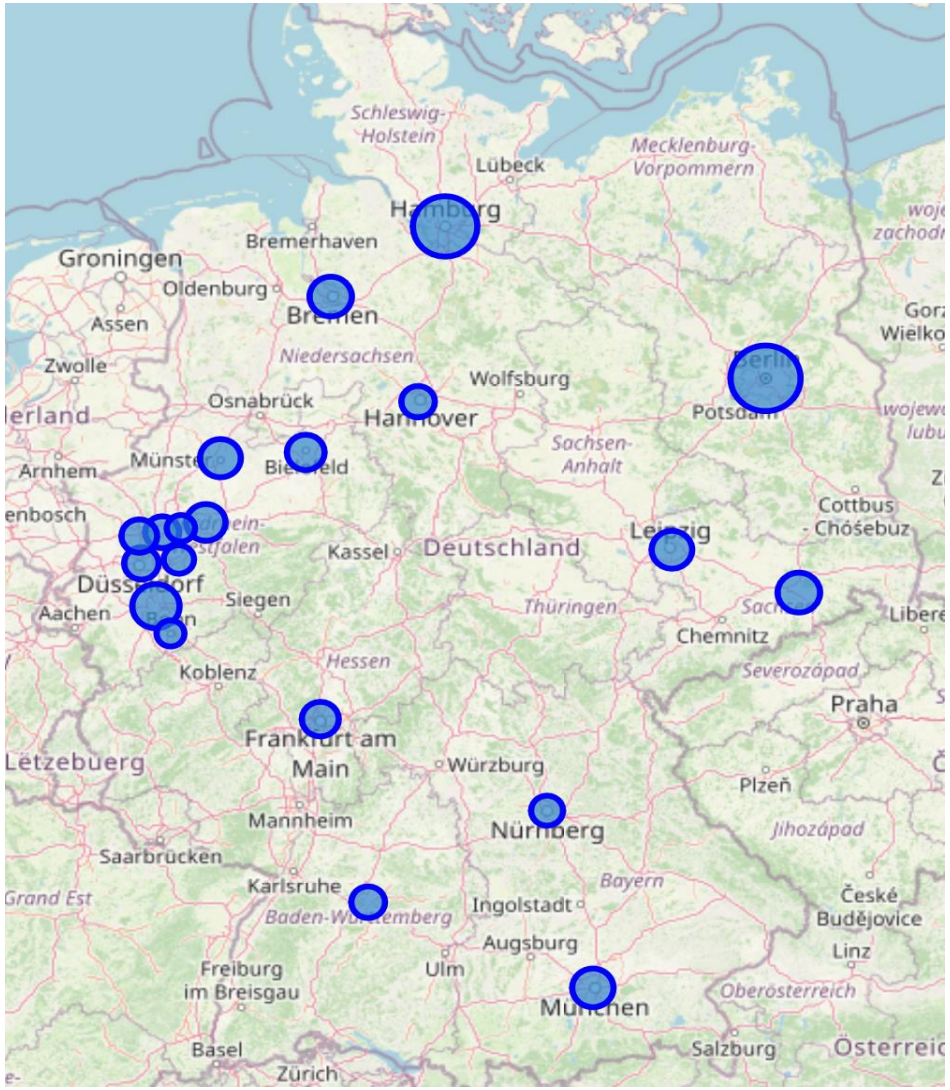
Extract the venues of interest for an individual for 20 largest German cities

Methodology

- Data acquisition from Wikipedia (German cities, population size, location) and Foursquare API (Venues of interest at different location)
- Data cleaning and formatting (pandas)
- Feature extraction (Defining relevant features)
- Defining a metric to rank the cities
- Calculating each cities rank or ‘livability index’
- Visualization of the results

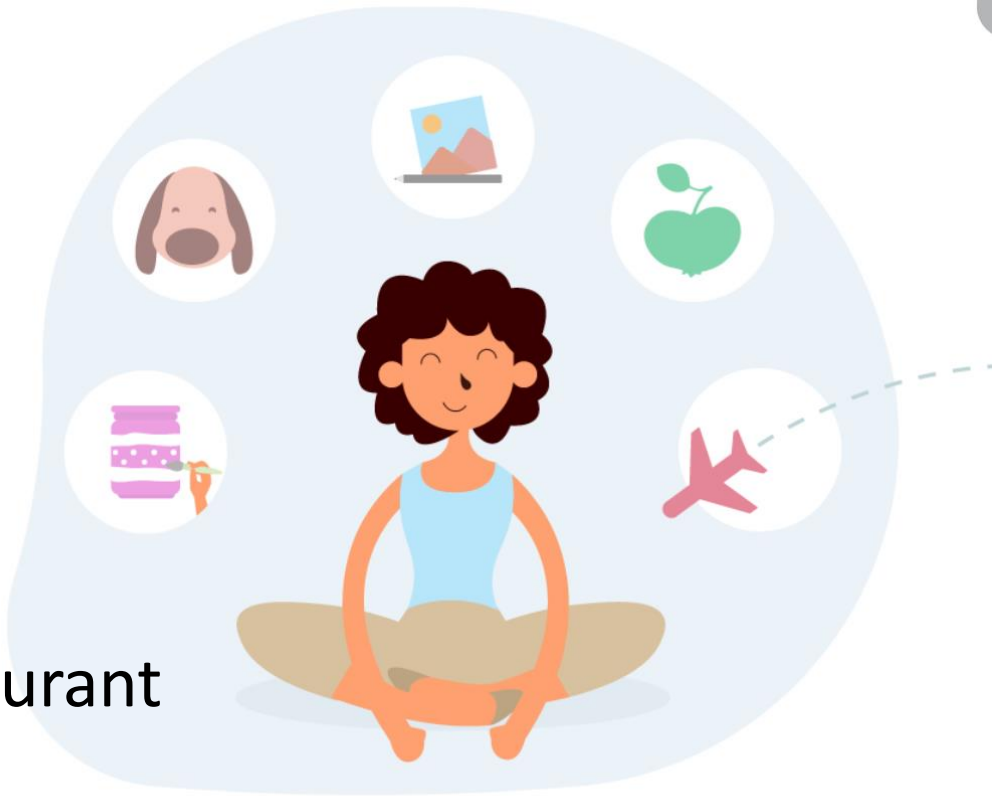
Results

20 largest cities in Germany

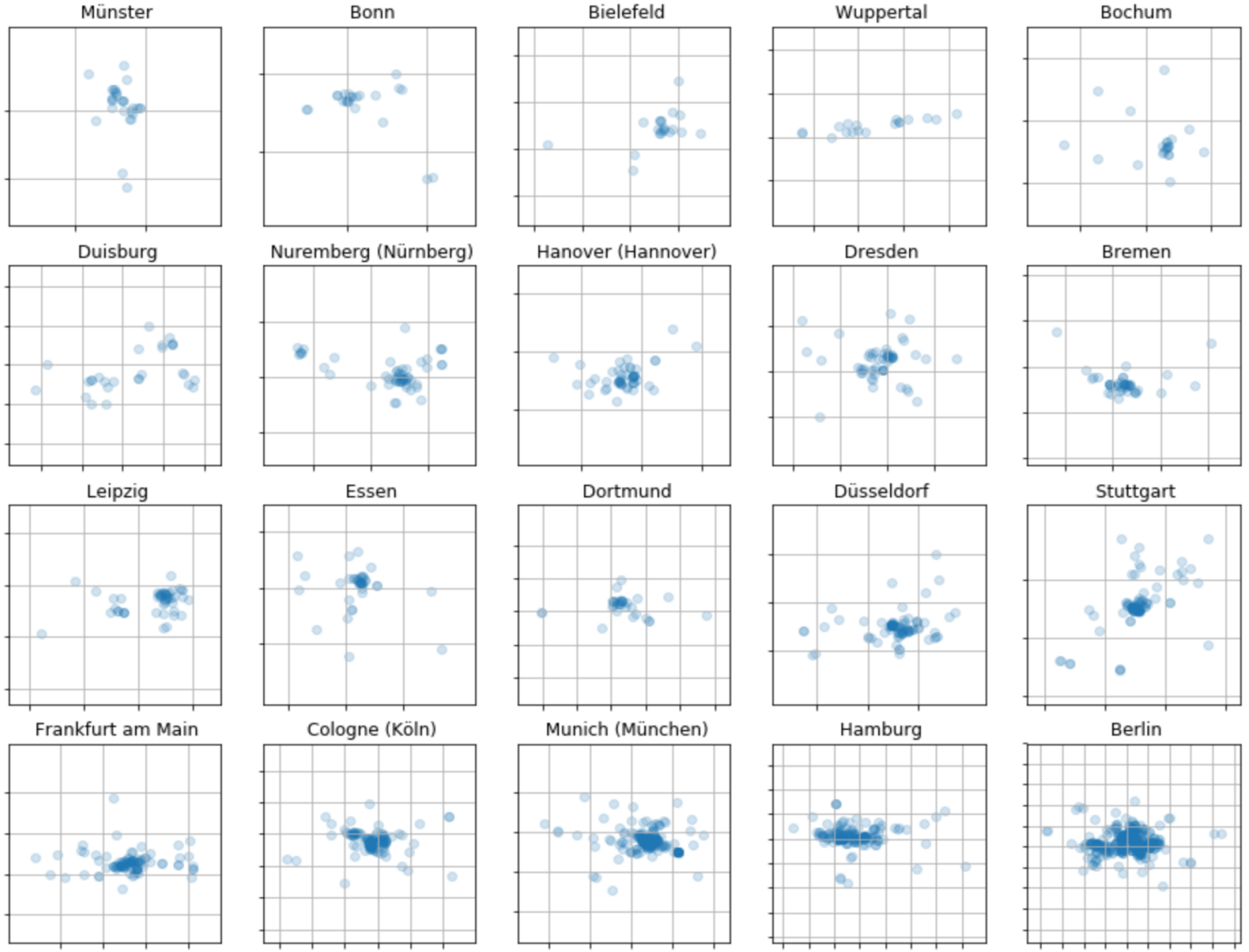


Example venue categories of interest

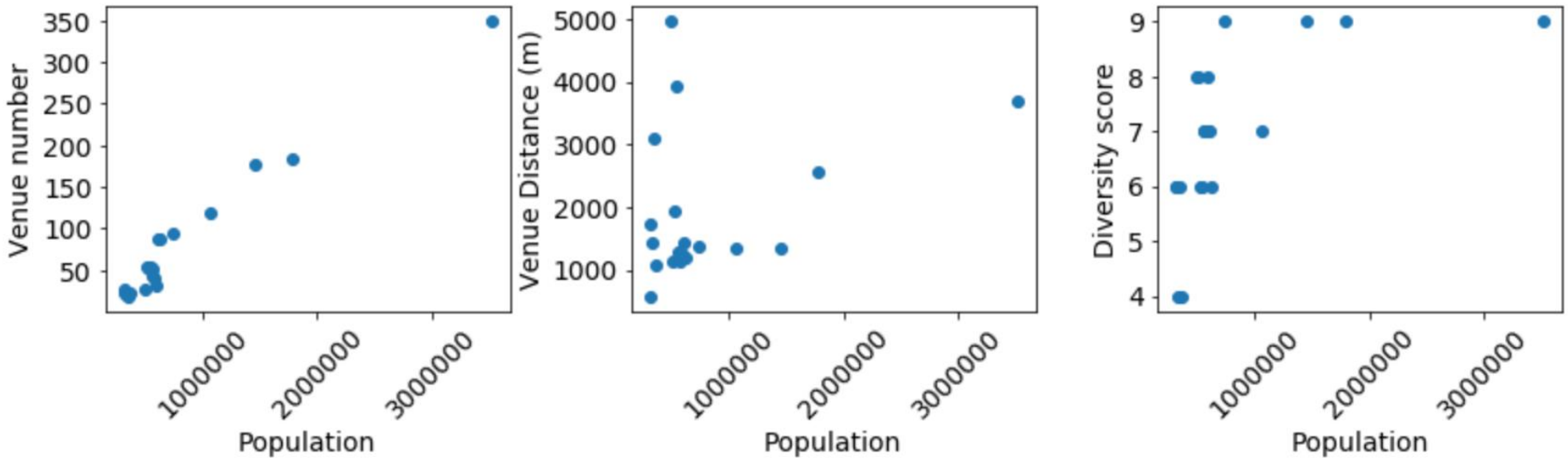
- Jazz Club
- Theatre
- Dance studio
- Costume Shop
- Dim Sum Restaurant
- Malay Restaurant
- Bubble Tea Shop
- Molecular Gastronomy Restaurant
- Night club



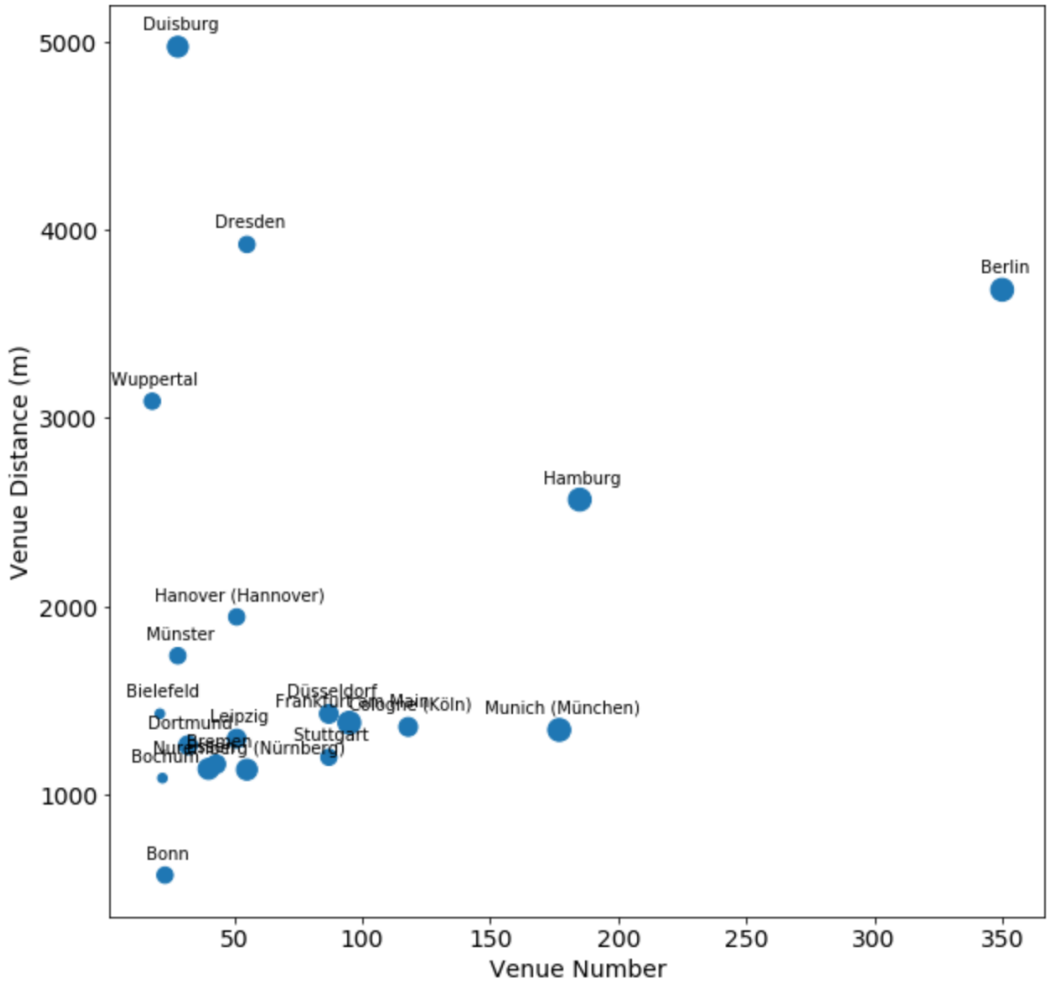
Venues of interest in each city



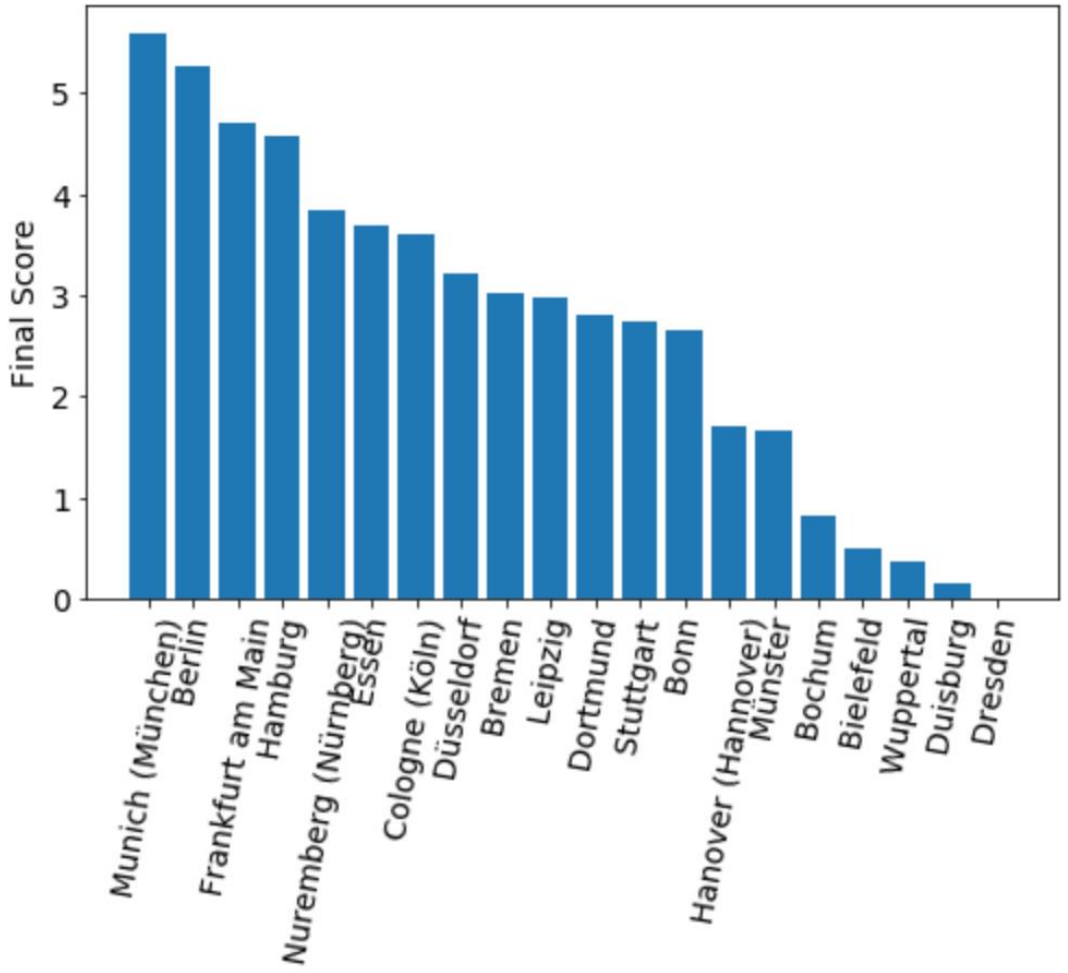
Venue metrics by city population



Venue metrics explored further



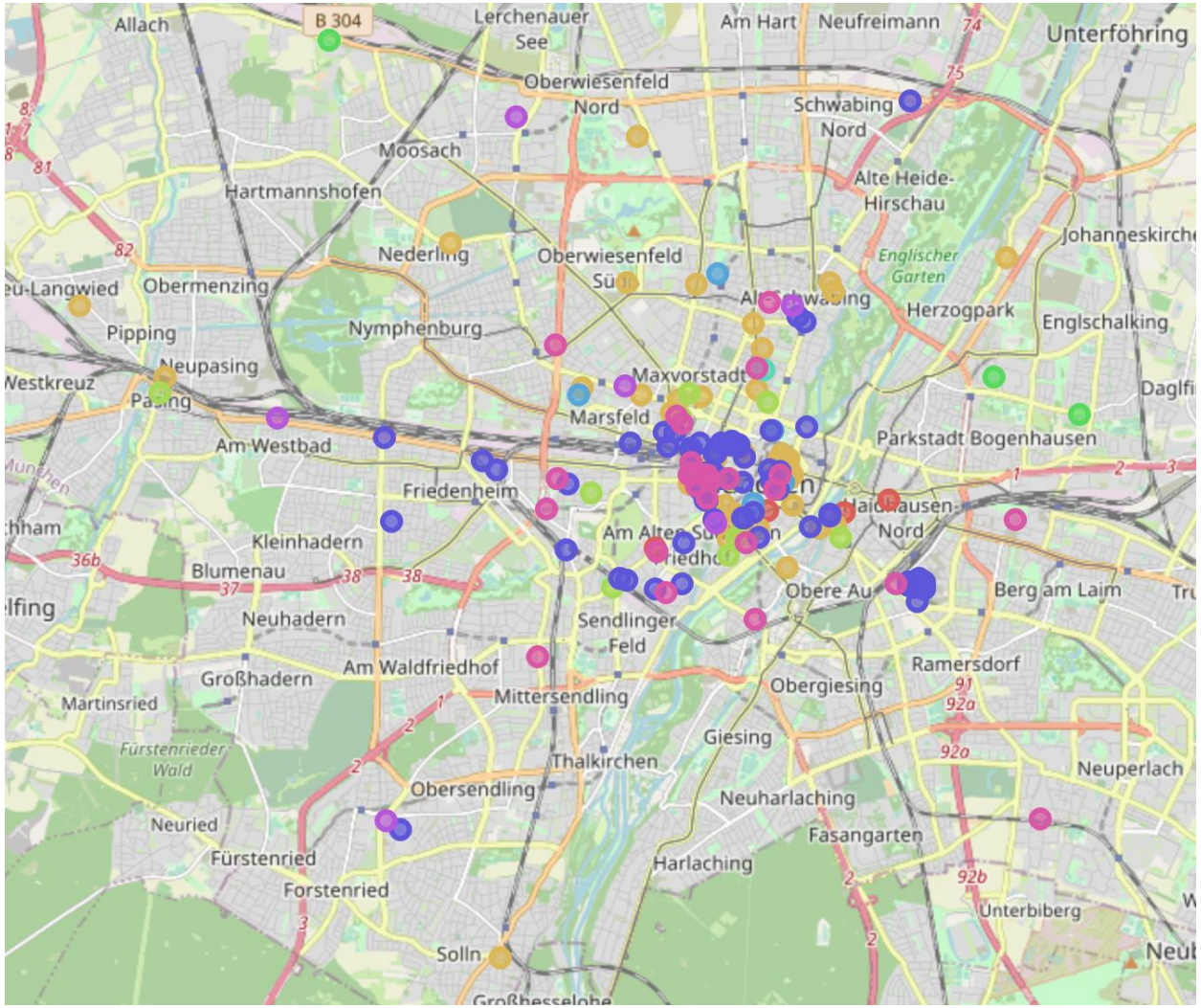
City score and ranking

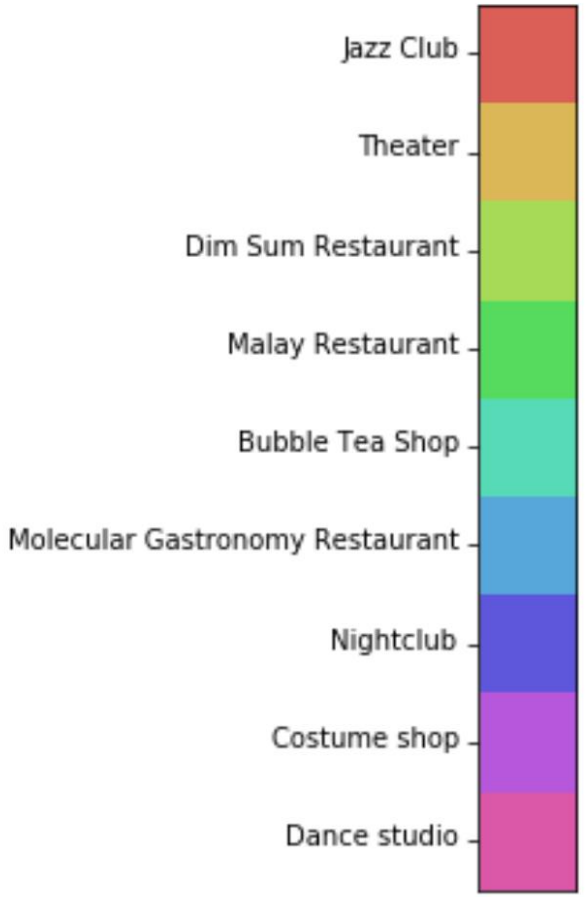


Score =

“number of venues” +
“diversity score” –
“venue distance” –
0.2*”city population”

Munich city venues





Summary

- Ranking of cities for individual interests
- Not necessarily is the biggest city the best
- Easy exploration of venues of interest in your city with the Foursquare API