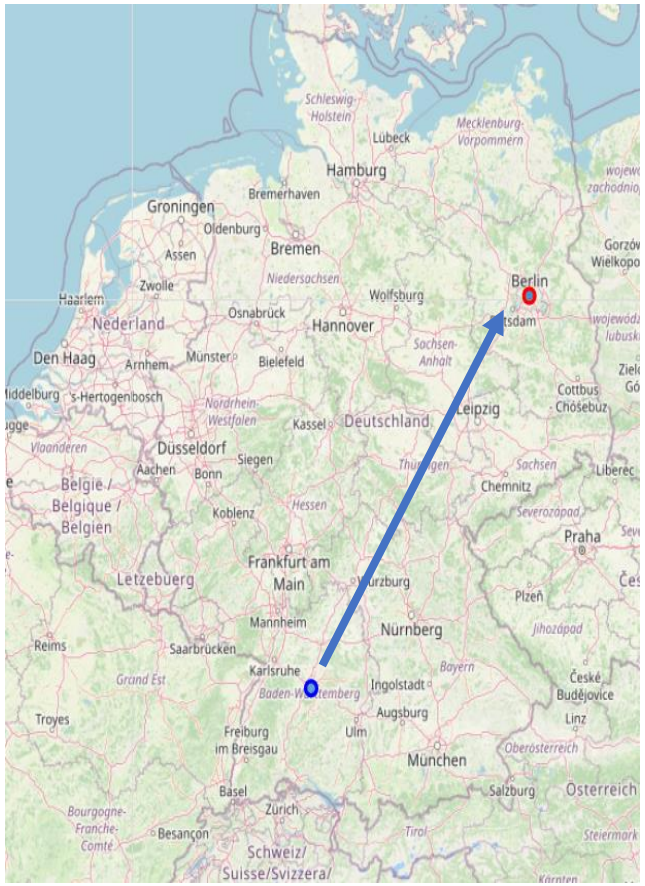
Where to next?

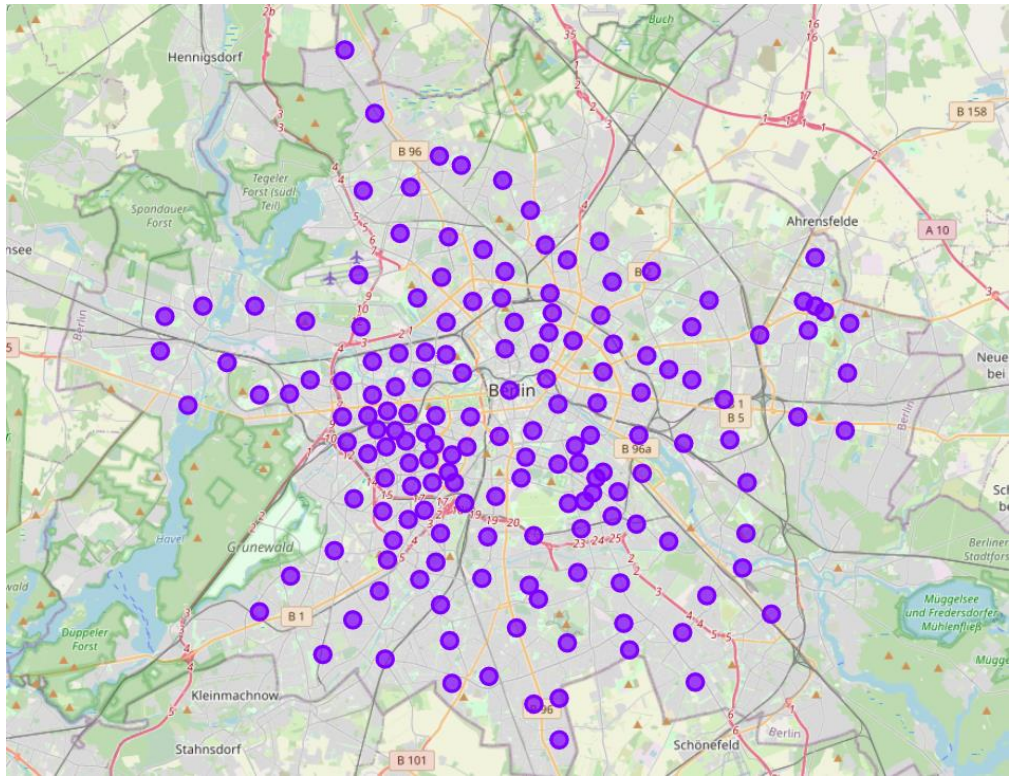
Introduction

- Suppose someone really likes the neighborhood they are currently living in
- But a new job opportunity requires them to move to a new city
- Let‘s use some data science methods to help find a good new place to live
- As an example, let‘s consider a move from Stuttgart to Berlin



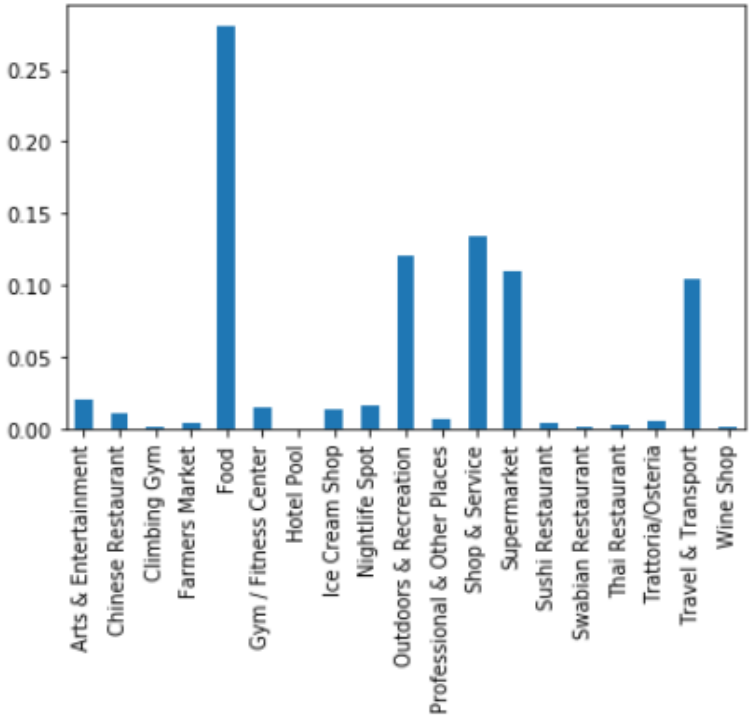
Finding all possible new neighborhoods

- Opendatasoft.com provides location data for all German Post Codes
- Using geocoder, all neighborhoods within a certain radius around the destination can be identified

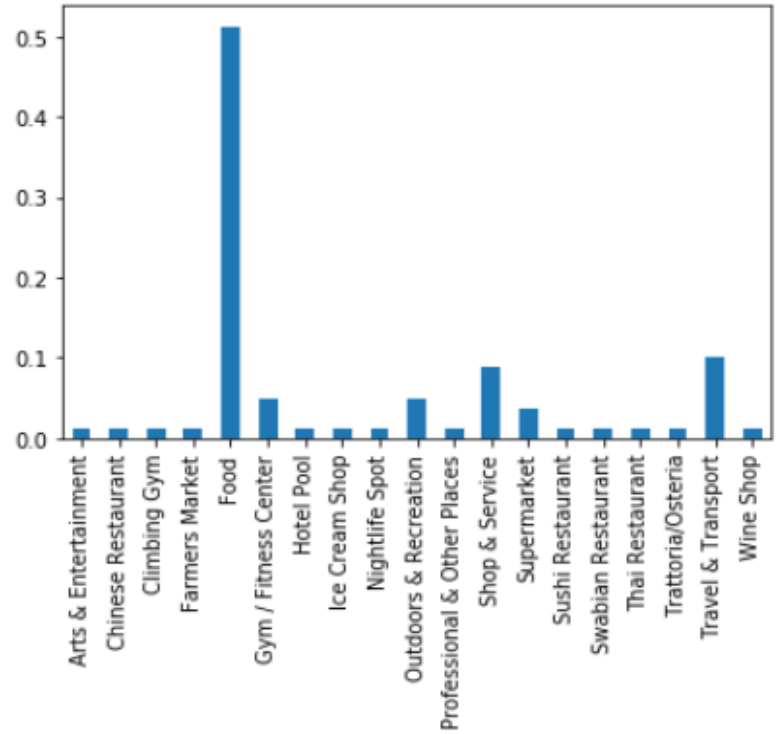


Average destination neighborhoods vs. reference

Average venue frequency at destination

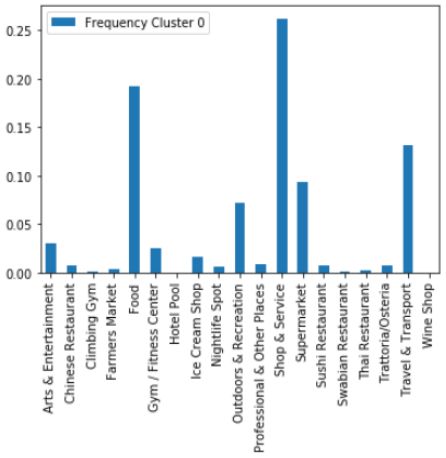


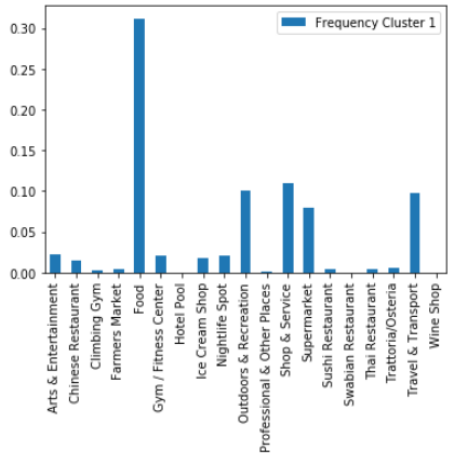
Average venue frequency at reference

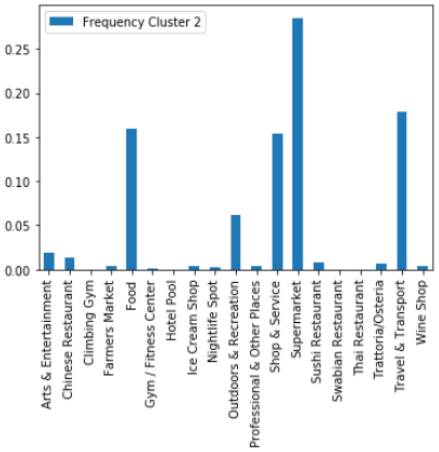


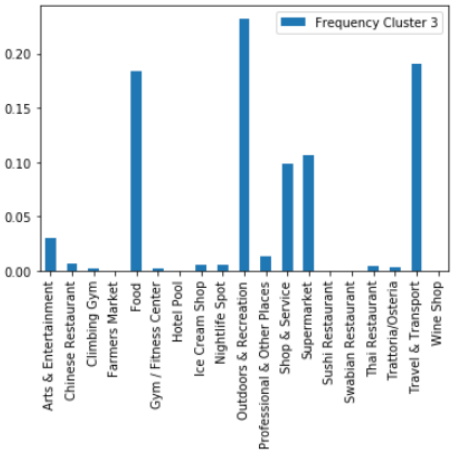
→ The reference neighborhood has a much higher preference for food venues that the average destination neighborhood

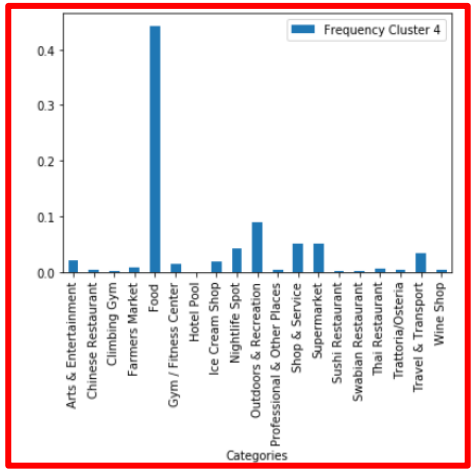
Clustering











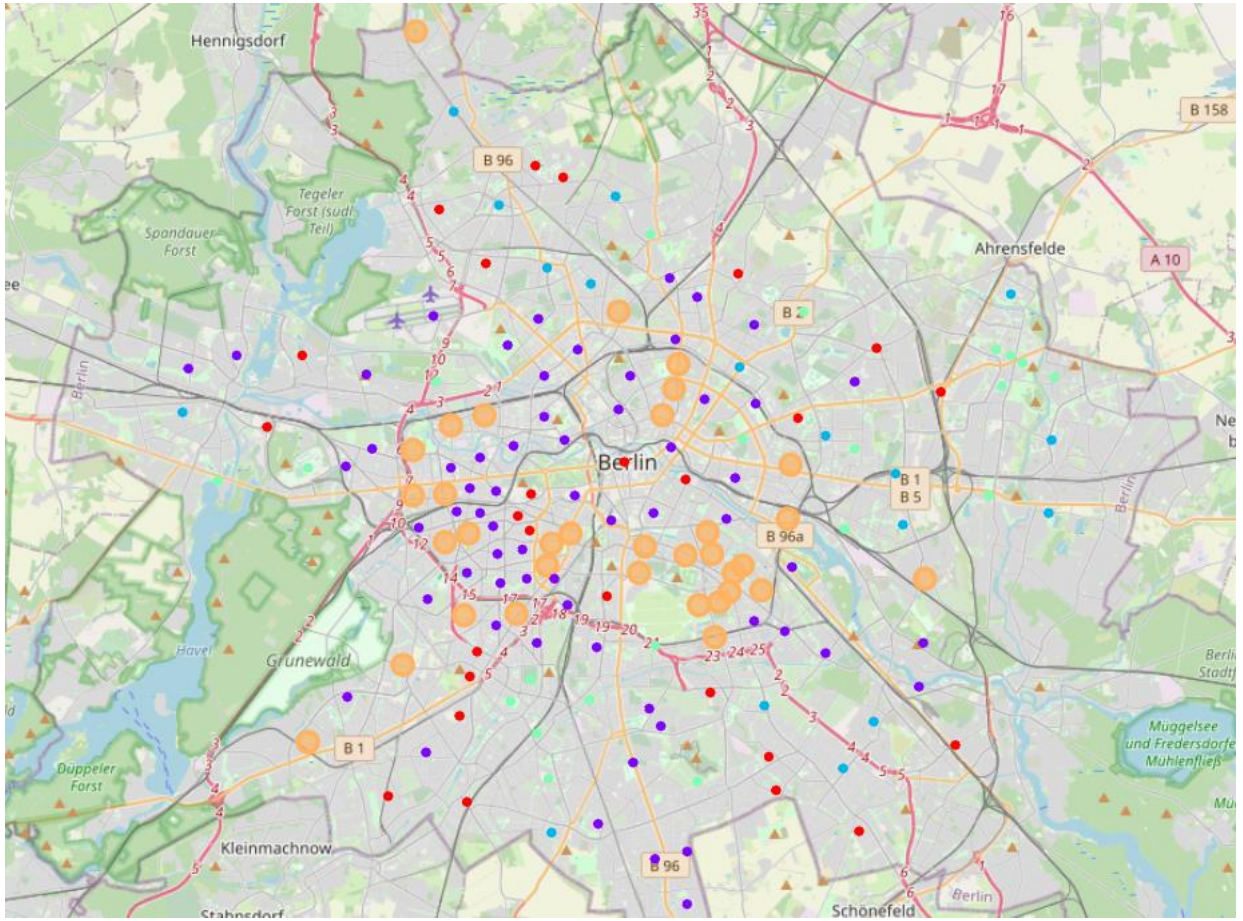
- K-Means clustering performed with 5 clusters
- Data of reference neighborhood included in cluster data
- Cluster, which contains the reference neighborhood is chosen as candidate cluster

→ Cluster 4 contains reference neighborhood and all candidate neighborhoods

Spatial distribution of candidate neighborhoods

- The candidate neighborhoods are spread out all over Berlin but are mostly located on the outskirts of the inner city
- This is similar to the location of the reference neighborhood in stuttgart
- To further reduce the number of candidate neighborhoods, only the 5 neighborhoods closest to the reference point are chosen

	Neighborhood	Post Code	Distance
22	Berlin Mitte	10119	2.380342
11	Berlin Schöneberg	10783	2.644311
32	Berlin Prenzlauer Berg	10435	3.190693
17	Berlin Schöneberg	10781	3.206165
15	Berlin Kreuzberg	10961	3.239111



Conclusion

- The reference neighborhood data shows: I like food
- Possible candidate neighborhoods should have a large number of food venues and be close to the reference point
- Luckily, there are several possible neigborhoods that fulfill these criteria