
FINDING THE BEST

— NEIGHBOURHOOD TO MOVE IN —

INTRODUCTION

Scenario

You are a great data scientist currently living in Istanbul. You receive a job offer from a significant company in Amsterdam. If you decide to accept the offer, you have to move in Amsterdam city.



Problem

You love your home town, you want to find a neighbourhood in Amsterdam which is similar to your currently living town.

And the most significant problem is cultural difference.

You expect to find the tastes you are already familiar with.



DATA ACQUISITION and CLEANING

Data sources

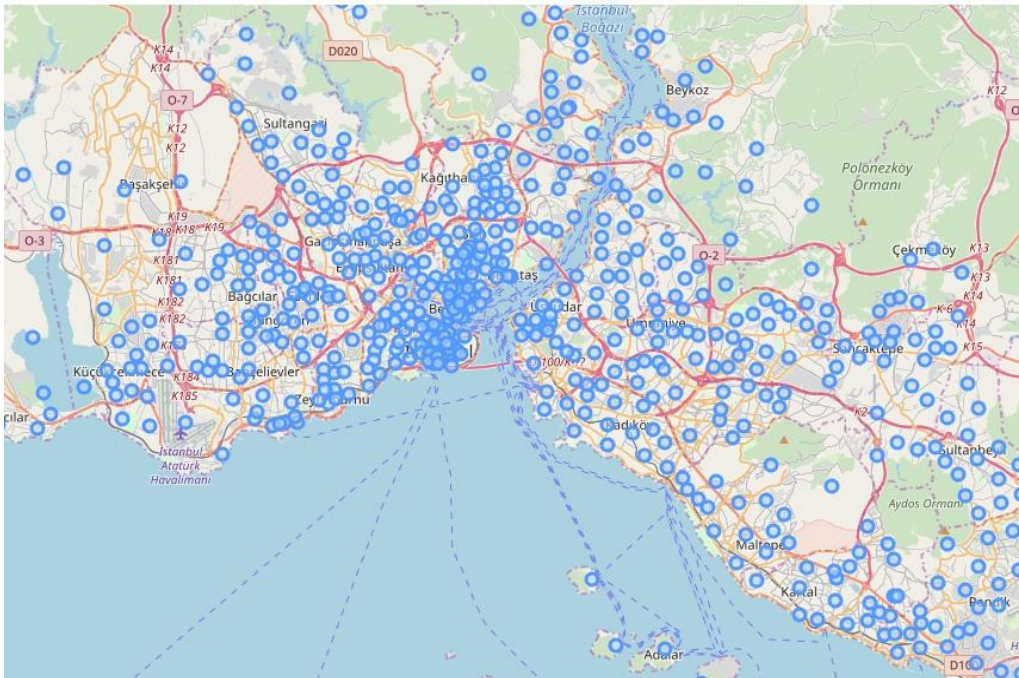
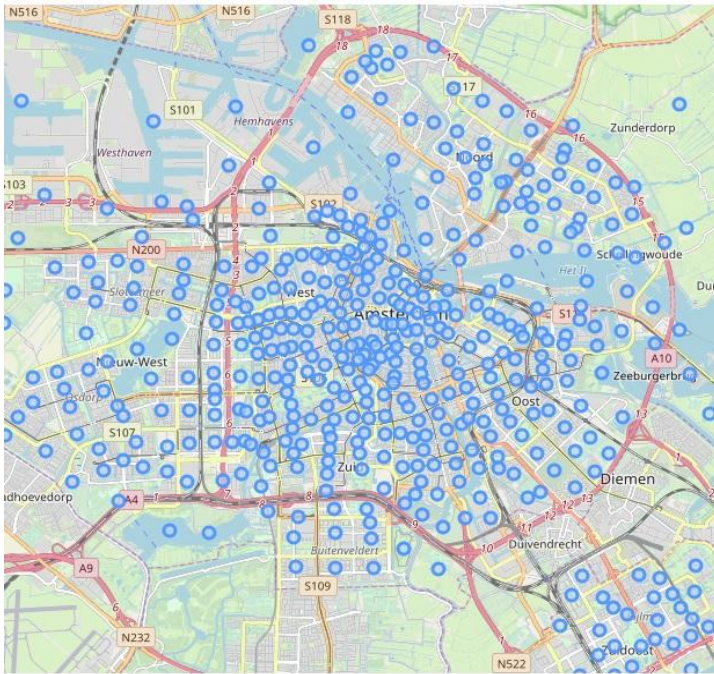
- In the website of amsterdam municipality there is neighbourhoods open dataset : [amsterdam neighbourhoods](#)
- Unfortunately, there is no ready-to-use dataset for Istanbul city. Data scraped from: [List of neighbourhoods of Istanbul](#).
- And following sources are used;
 - Google Maps API geocoding (For coordinates of neighbourhoods in Istanbul)
 - Foursquare API (For venues informations)

Data cleaning

- Amsterdam dataset was already clean.
- Rows with duplicated or null location values were dropped
- Cleaned datasets have
 - Amsterdam Dataset : 422 rows, 4 columns
 - Istanbul Dataset : 521 rows, 4 columns

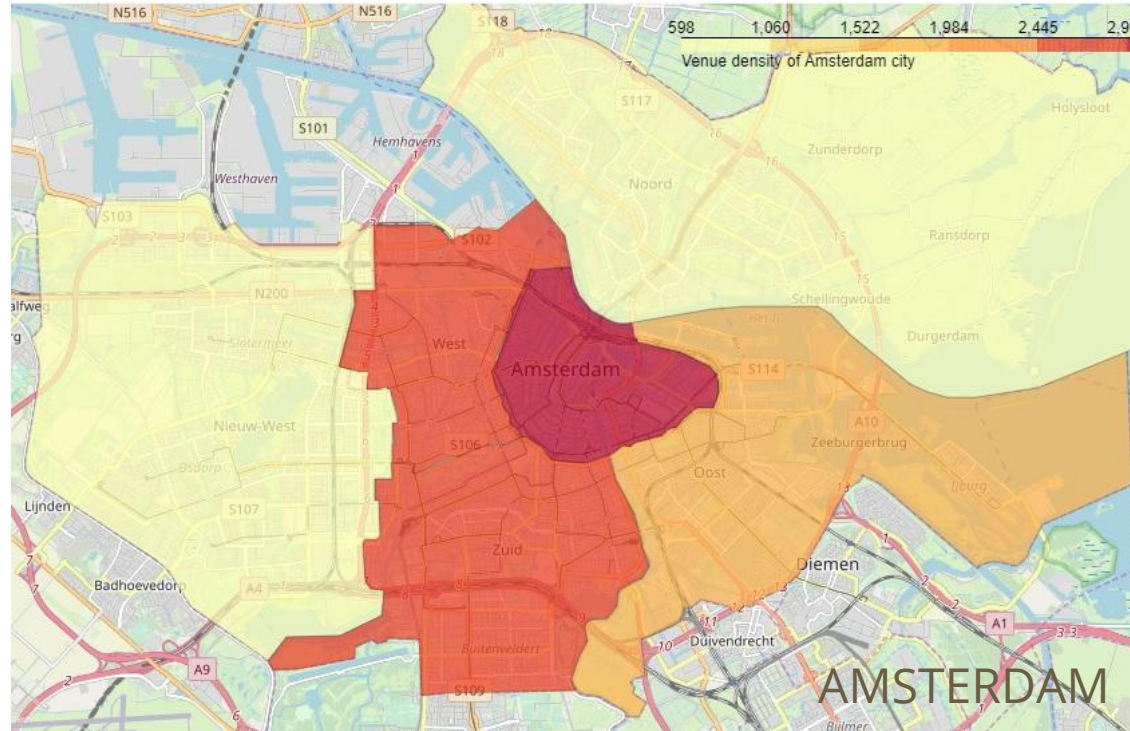


After cleaning of datasets

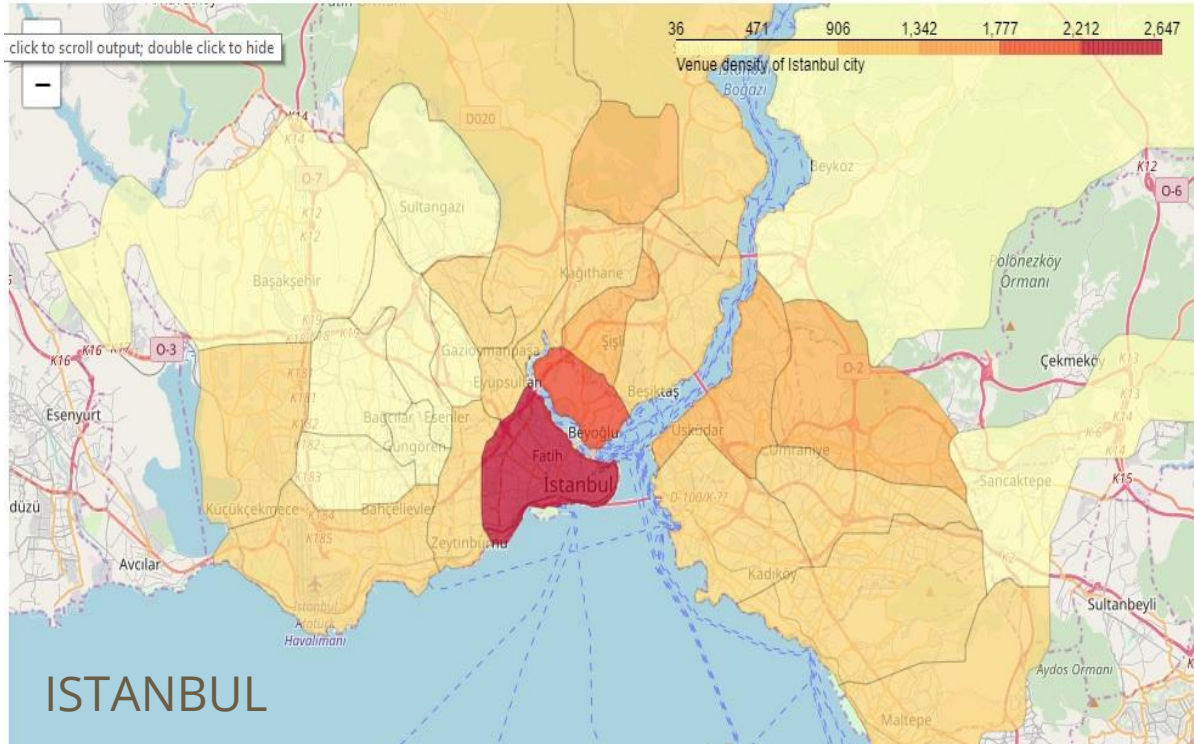


EXPLORATORY DATA ANALYSIS

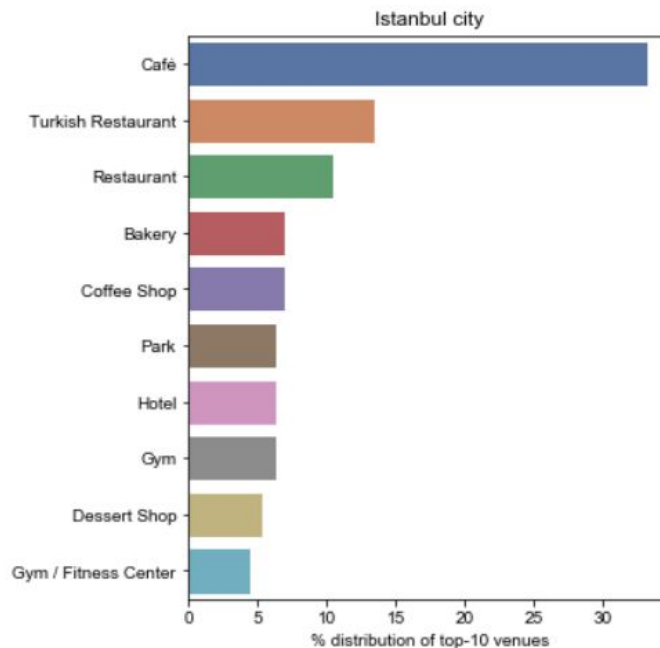
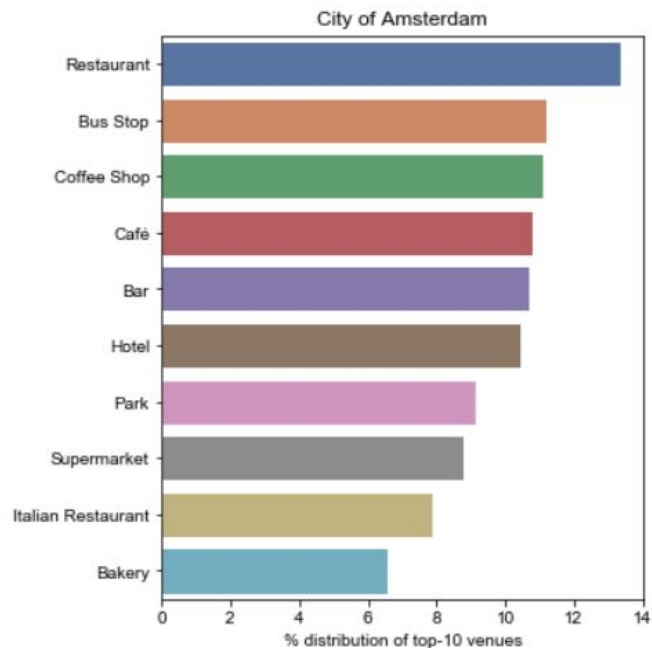
Venue density of cities



Venue density of cities



Top-10 most common venue categories of cities



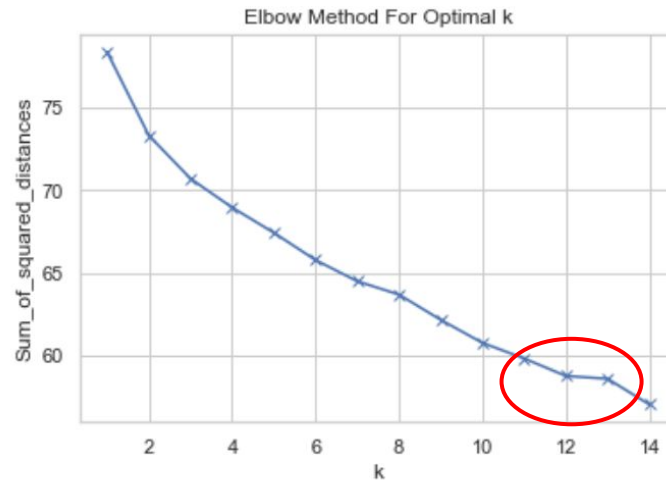
MODELING

K-Means Algorithm

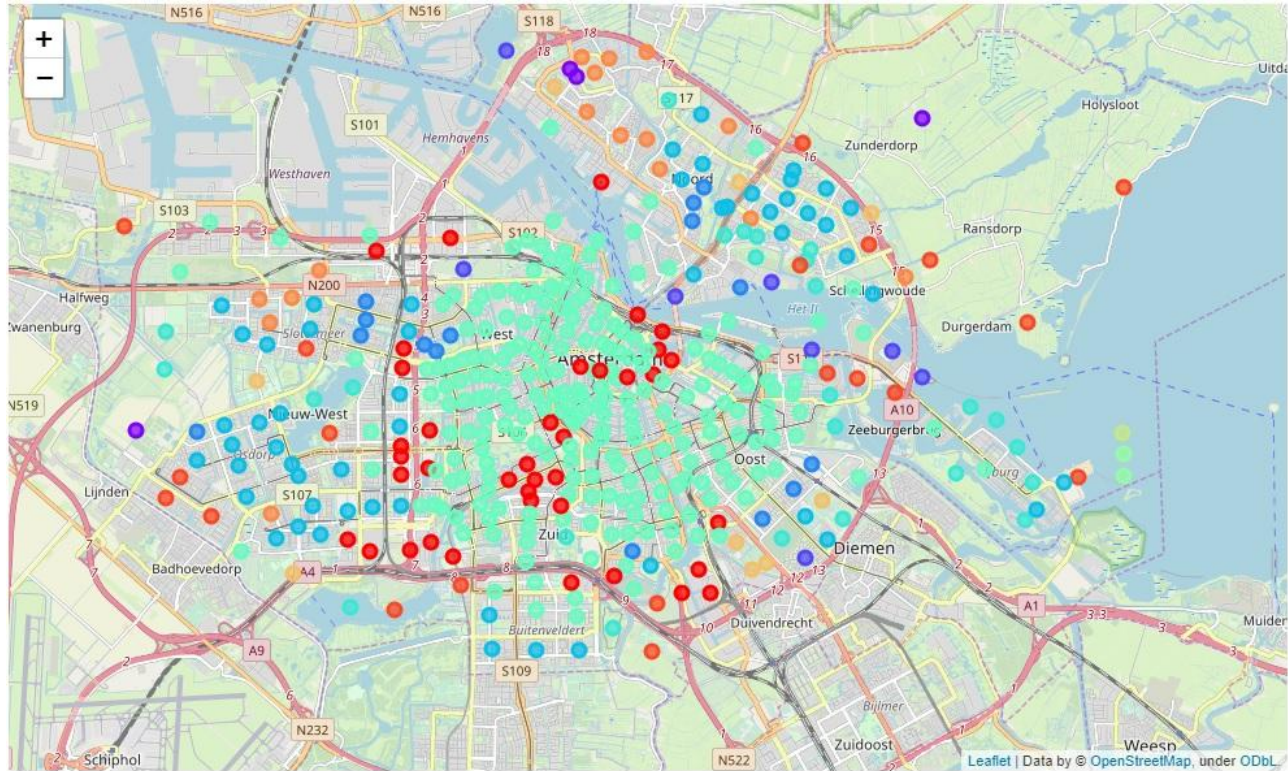
- We have no labeled data, therefore the problem of this project is an unsupervised problem.
- We simply apply a segmentation on neighbourhoods. We used K-Means algorithm to identify similarity of neighborhoods by clustering them.
- In k-means algorithm we need to identify the best cluster number.
- To identify that we used elbow method.

Elbow Method

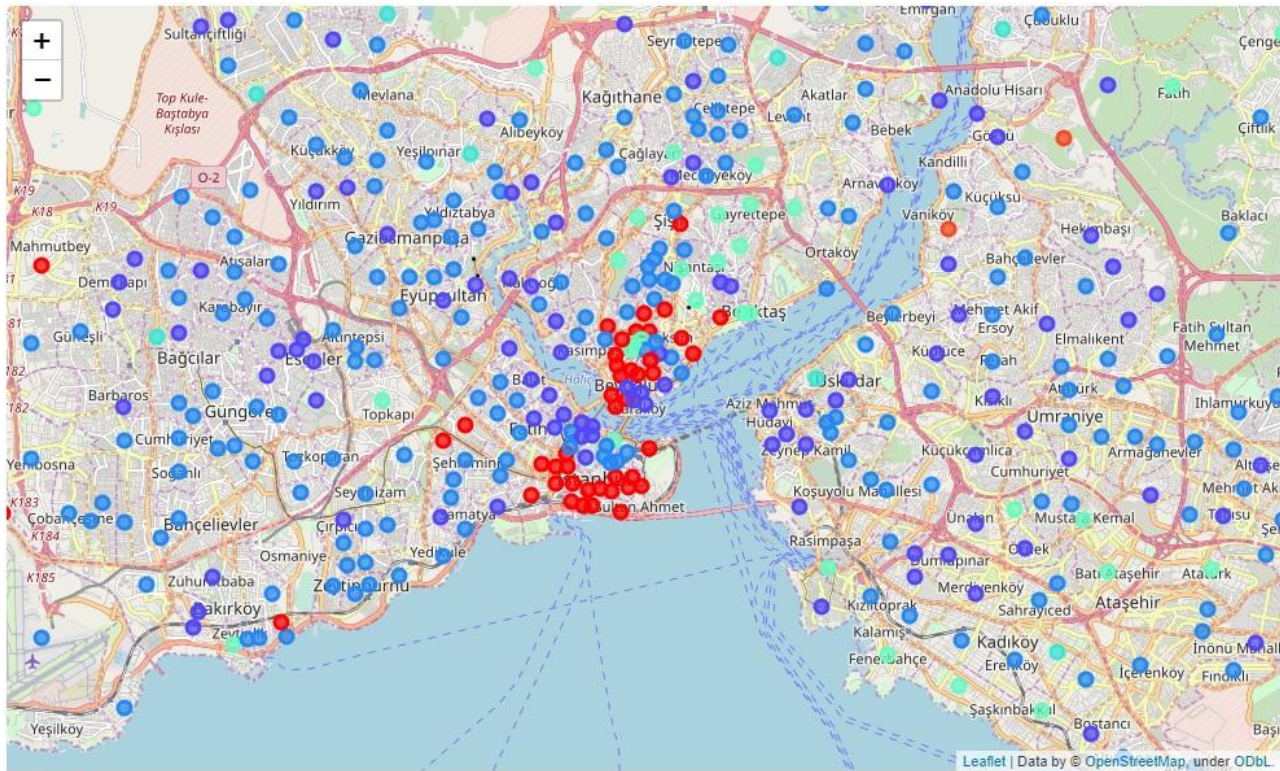
- Elbow method we used is an observational analysis.
- we should identify the most significant bend in graphic of sum of squared distances. We found it at 12.



Clusters of Amsterdam



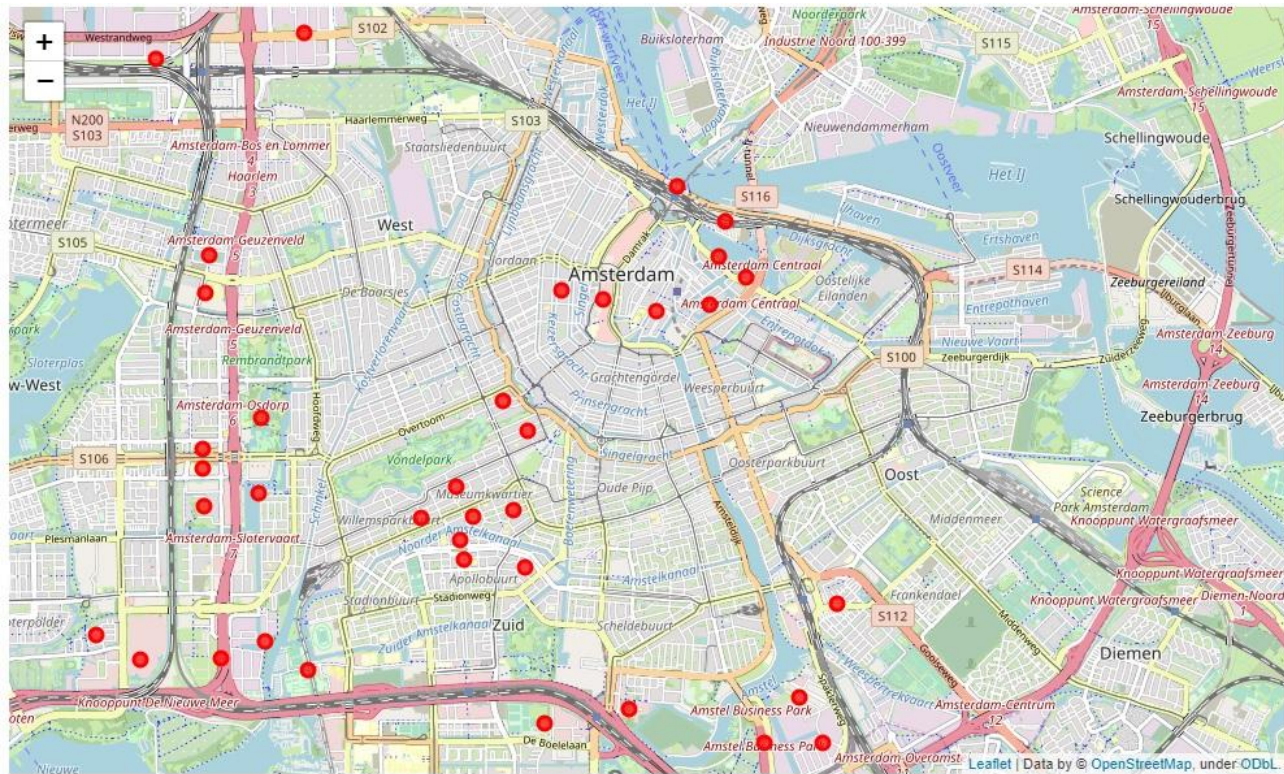
Clusters of Istanbul



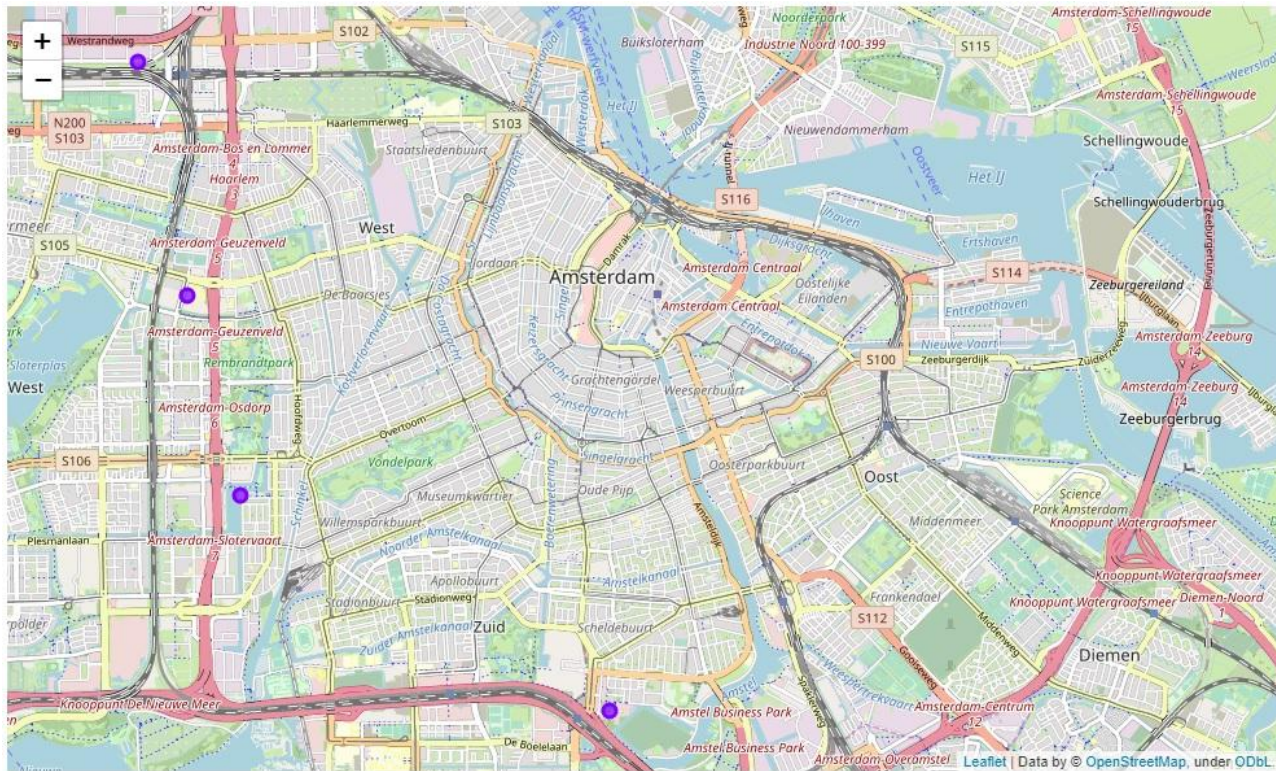
Analysis Result

Similar neighbourhoods with Turkish venues

Similar neighborhoods in Amsterdam



Neighbourhoods that have Turkish venues



99%

Our analysis clearly presents the best options to choose neighborhood that is similar to your home town, also you can find turkish cultural foods in vicinity.

Conclusion

Similar neighbourhoods
with Turkish venues



Conclusion

Purpose of this project was to identify neighbourhoods in similar with your home town and keep your adaptation period as short as possible.

For a newcomer the hardest thing to find similar taste of your culture in vicinity. By getting venues information from Foursquare data we have first clustered neighbourhoods, and then by filtering the collection of locations which is similar to hometown regarding existing turkish venues in vicinity.

We reached 4 neighbourhoods locations. We presented them on the map.

You can decide optimal neighbourhood location to move on based on our analysis.

Thanks!



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