

# Coursera Capstone Project

## Opening a new Burger Restaurant in Hamburg, Germany

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# Business Problem

- Location of the restaurant is one of the most important decisions that will determine whether it will be a success or a failure
- Objective: To analyse and select the best locations in Hamburg to open a new burger restaurant
- Business question:

In the city of Hamburg, Germany, where would you recommend opening a new burger restaurant?

# Data

- List of neighborhoods in Hamburg
- Coordinates of the neighborhood for mapping and getting the venues from Foursquare
- Data source:  
[https://de.wikipedia.org/wiki/Liste\\_der\\_Bezirke\\_und\\_Stadtteile\\_Hamburgs](https://de.wikipedia.org/wiki/Liste_der_Bezirke_und_Stadtteile_Hamburgs)

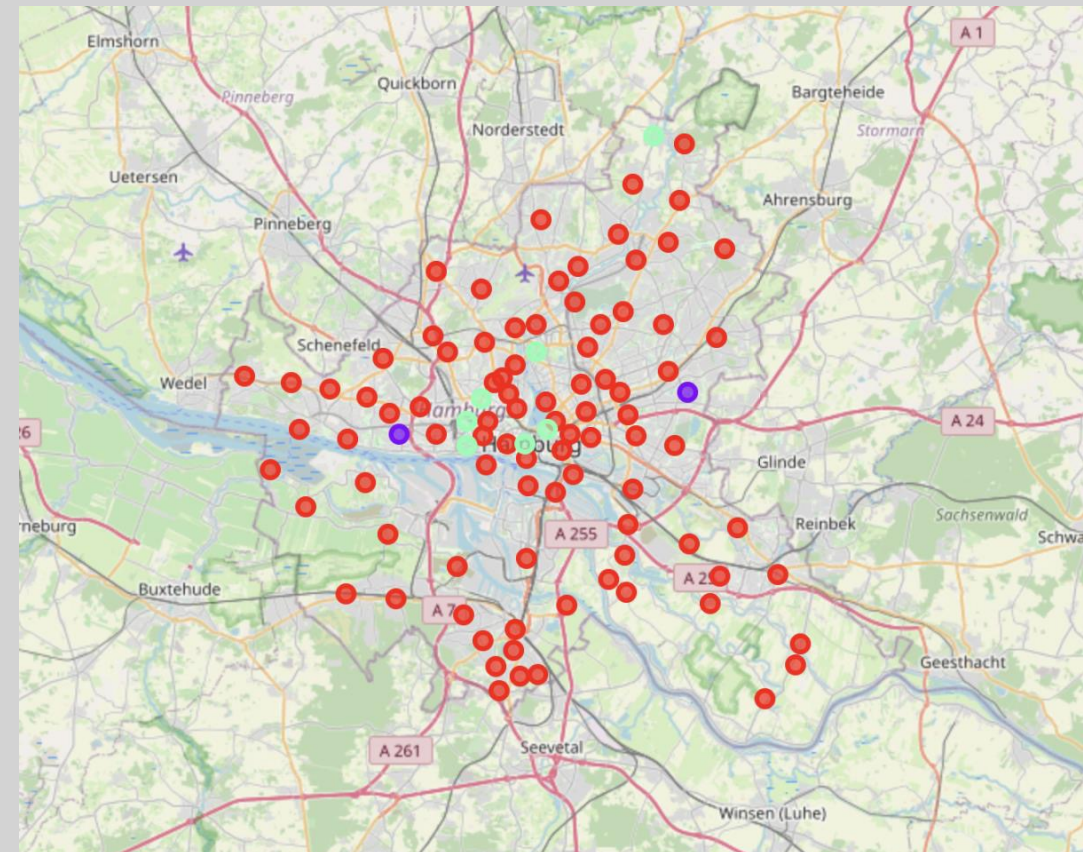
	Neighborhood	Latitude	Longitude	Borough	Population density
0	Hamburg-Altstadt, Hamburg	53.550468	9.994640	Hamburg-Mitte	979
1	HafenCity, Hamburg	53.542913	9.995835	Hamburg-Mitte	2239
2	Neustadt, Hamburg	53.549881	9.979048	Hamburg-Mitte	5549
3	St. Pauli, Hamburg	53.553935	9.959432	Hamburg-Mitte	8839
4	St. Georg, Hamburg	53.557149	10.014256	Hamburg-Mitte	4733

# Methodology

- Web scraping Wikipedia page for neighborhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Burger Joint
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

# Results

- Categorized the neighborhoods in 3 clusters
  - Cluster 0: Neighborhoods with low number to no existence of burger restaurants
  - Cluster 1: Neighborhoods with moderate number of burger restaurants
  - Cluster 2: Neighborhoods with high concentration of burger restaurants



# Discussion

- Most of the burger restaurants are concentrated in the central area of the city
- Highest number in cluster 2 and moderate number in cluster 1
- Cluster 0 has very low number to no burger restaurants in the neighborhoods

# Recommendation

- Opening a burger restaurant in the neighborhood „Sternschanze“
- Little to no competition due to a small number of burger restaurants
- High population density
- Avoid cluster 2 with a high number of burger restaurants



Thank you for your attention!!!