SHORTLISTING OPTIMUM LOCATIONS FOR AN ITALIAN RESTAURANT IN HAMBURG

Background/ Business Problem

A person wants to open an Italian restaurant in Hamburg. Finding a suitable spot for Italian restaurant is particularly challenging because there are many Italian restaurants in Hamburg. Therefore, he wants to use data science and machine learning techniques to find a suitable location for his restaurant. Restaurant should ideally be located in part of Hamburg where the owner could get a significant customer base. He is targeting the mid to upper segment of the market so this we will be looking for areas with high buying power and less competition.

There are many neighborhoods in Hamburg some more affluent then the others and the population density varies widely between the different parts of the city. The aim of this project is to shortlist suitable locations considering these factors.

Description of Data

The Data sources used for this project are as follows:

1. A list of all the neighborhoods in Hamburg including their population density is taken from the Wikipedia page: https://de.wikipedia.org/wiki/Liste_der_Bezirke_und_Stadtteile_Hamburgs Web scraping is used to read the relevant data on this webpage.

2. The data on the average income in each neighborhood is taken from the report this website: *https://www.statistik-nord.de/fileadmin/Dokumente/Statistik_informiert_SPEZIAL/SI_SPEZIAL_VIII_2017.pdf* A csv file is generated using the data in this pdf and read into pandas dataframe.

3. The data on venues in each neighborhood serving food is obtained using the Foursquare places API.

From these sources, data on the population density, average income and the number and type of food venues will be used to shortlist potential locations for an Italian restaurant.