

Recommended cities in Germany to establish new fastfood restaurants

Coursera Course: Applied Data Science Capstone by IBM

Michael M., 2019-04-06, V1.0

Business Problem

- International fastfood chain plans to enter German market
- Currently they are not present in Germany
- Data scientist to provide most promising communities for 2 pilot restaurants

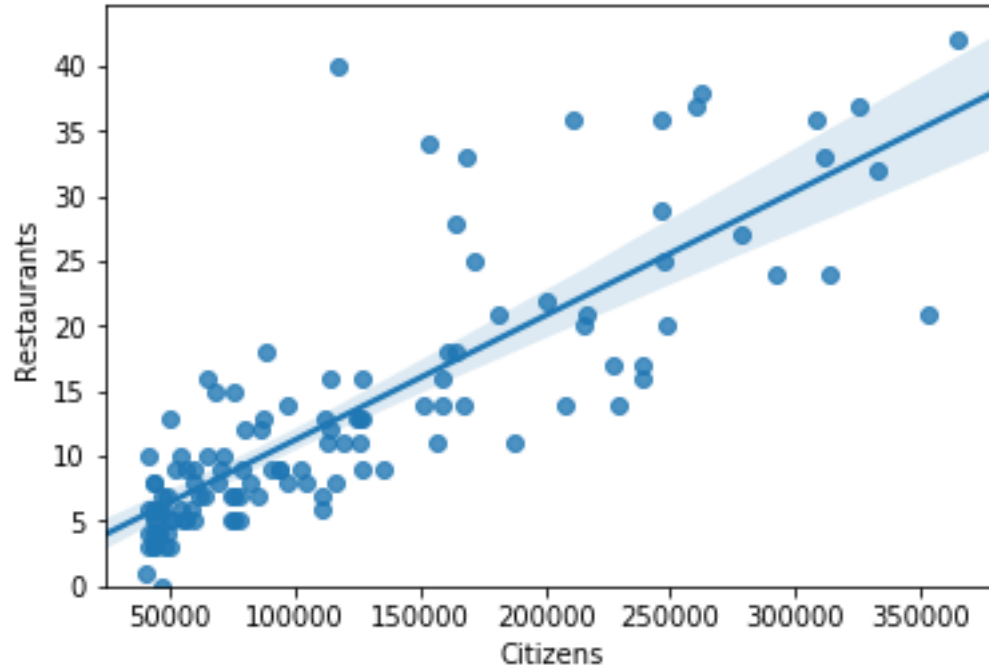
Data

- Demographical Data
 - Provided by „German Federal Office for Statistics“ (DESTATIS)
 - Relevant data available on community level
- Fastfood Restaurants
 - Provided by „Foursquare Labs Inc.“
 - Developer API to search venues by longitude/latitude within defined radius

Methodology

- Linear Regression
 - Analyze statistical correlation of number of restaurants vs. demographical attributes
- K-means Clustering
 - Group communities into geographically homogenous clusters
- Box-plots
 - Analyze inner structure of clusters
 - identify median and outliers

Citizens vs. Restaurants in a Community



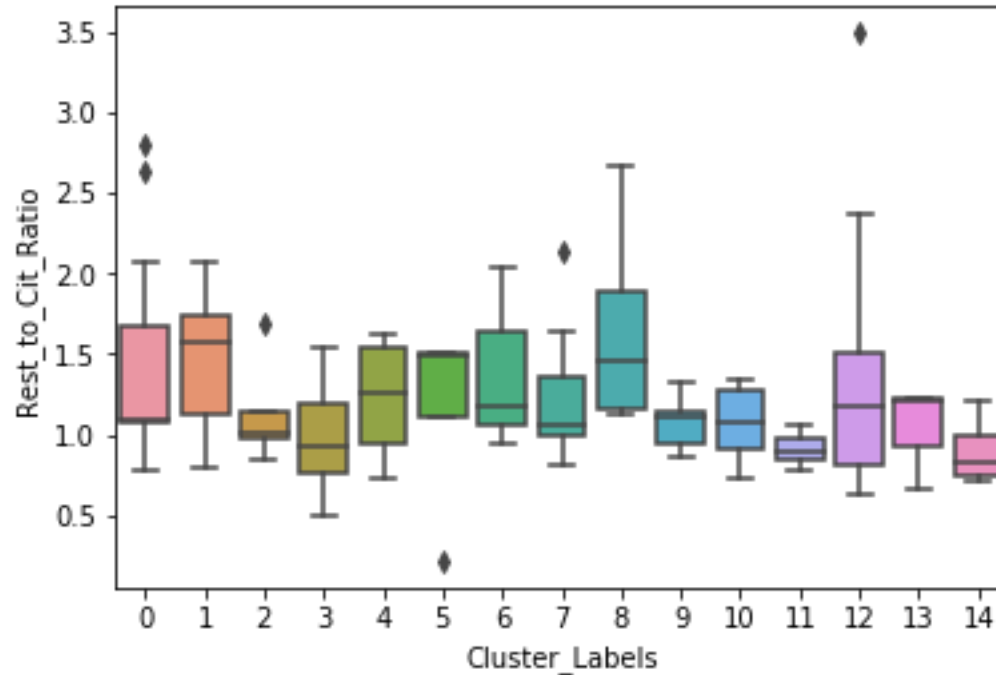
- Linear relationship of restaurants vs. Citizens
- Roughly 1 restaurant per 10,000 citizens

Geographical Clusters



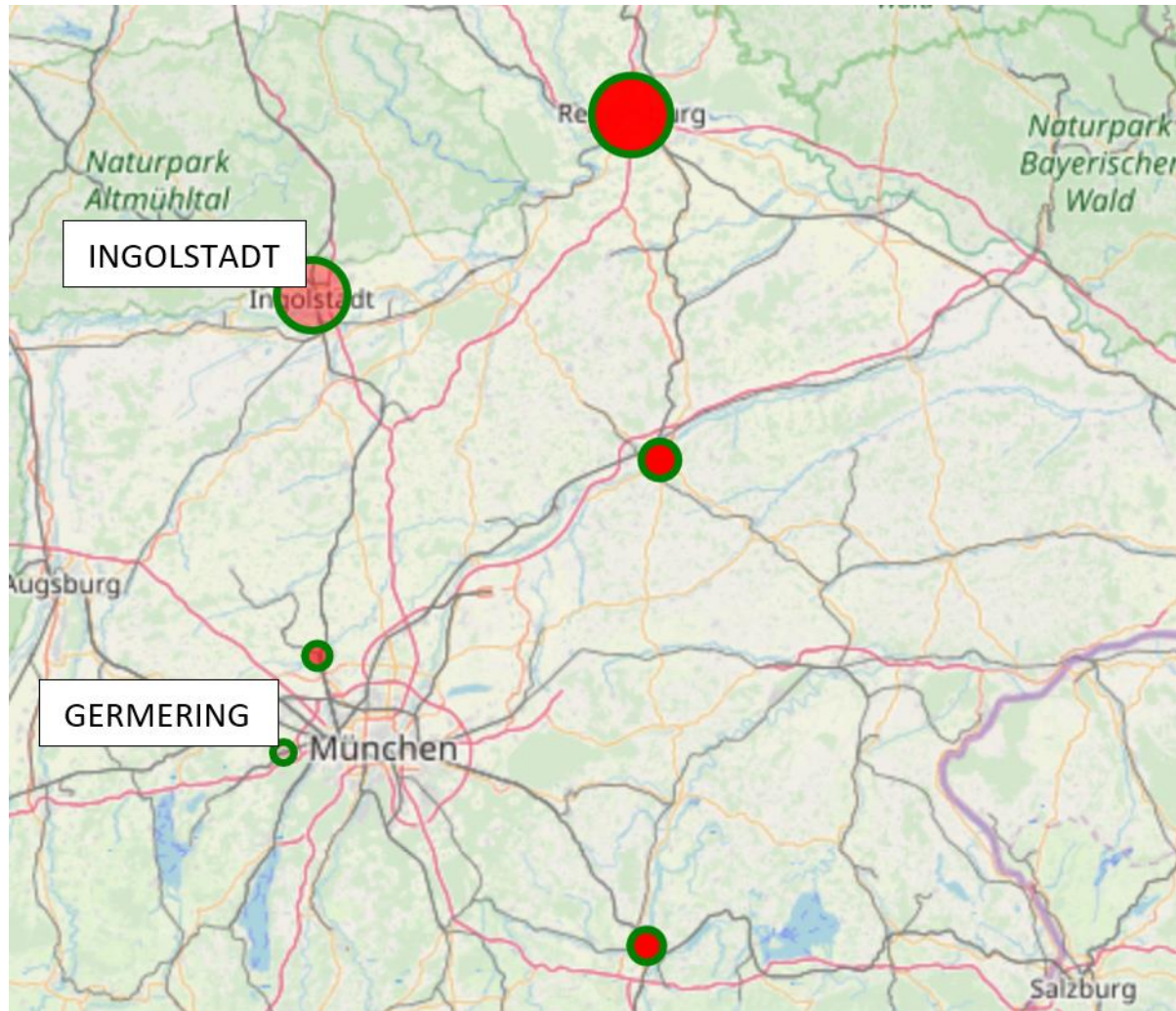
- Majority of clusters seems eligible
- Just clusters 4, 7, 11 and 13 have too few cities in a too wide area

Restaurants-to-Citizens-ratio by cluster



- Cluster 3 most appropriate
 - low mean number of restaurants vs. Citizens
 - Total number of citizens high enough for further subselection

Most eligible cities in selected cluster



Recommended Cities

1. Ingolstadt



https://commons.wikimedia.org/wiki/File:Ingolstadt_Panorama_Nord.jpg

2. Germering



http://www.total-lokal.de/city/germering/data/82110_50_03_17/index.html