Neighborhood Segmentation and Clustering – Setting up a restaurant in Oslo

Evangelos Toumasatos

1. Introduction

For many people, dining outside is an important part of their lifestyle – be it on lunch break at work, a causal meal with friends and family, or a formal dinner to celebrate something special. It is therefore important that restaurant owners reflect upon their customers' needs and adjust their services accordingly to offer a better customer experience and at the same time make a profitable business.

As with any business decision, opening a new restaurant requires serious consideration and there is more to it than meets the eye. In particular, the location of the restaurant is one of the most important decisions that are potentially going to determine its success or failure.

The purpose of this projects is to select the best locations in the city of Oslo, Norway, to open a new restaurant, and also recommend types of restaurants that the city lacks. The project will mainly focus on geospatial analysis of the city of Oslo to understand which would be the best place to start a new restaurant business. Using machine learning techniques like clustering, this projects aims to recommend location where restaurant owners should open new restaurants as well as possible types of restaurants.

2. Description of Data and Sources

To approach the problem, we will use the following data:

- Using Wikipedia we have created a list of all boroughs and neighborhoods in the city of Oslo. Then, we have retrieved the respective latitude and longitude of all neighborhoods using geopy, a Python client for several popular geocoding web services.
- Having a complete list of locations including names and coordinates, we utilize the Foursquare API to explore the neighborhoods and segment them by getting the most common venues of a given neighborhood of Oslo.

3. Methodology
4. Results
5. Discussion
6. Conclusion