Identifying Potential Locations for New Craft Breweries in Denver, Colorado

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12/30/2020

1. Introduction and Business Problem

According to the Denver Microbrew Tour, the City of Denver has 92 brewery venues as of early 2020. In a city spanning a modest area of 401 km^2, there exists approximately one brewery for every 4 km^2. Home to North America's annual Great American Beer Festival and listed as the number one destination for craft beer tourism on Wikipedia, it appears Denver's local economy is willing to accommodate for such a high density of craft beer venues.

This project leverages venue geolocation and machine learning clustering algorithm to help small business entrepreneurs identify which neighborhoods in Denver, Colorado have the greatest potential for being the home of the city's next craft brewery.

2. Data

The data used for this project are a list of neighborhoods in Denver, Colorado, obtained by scraping the "Neighborhoods in Denver" category from Wikipedia using the BeautifulSoup python package. Once the list of neighborhoods was read into a data table, each neighborhoods' geographic information was georeferenced using ESRI's ArcGIS geocoder. Then, using Foursquare's API, a search request returned the top 100 venues within 4 km of each neighborhood's centroid. Note that a radius of 4 km was chosen based on the 4 km^2 density of Denver breweries.