

Capstone Project Report – The Battle of Neighborhoods

Title: Recommending Ad Placement Sites for a Local Business

Introduction/Business Problem (This Section is for Week 1, Part 1)

A Dessert & Coffee Shop, located in a Northern Suburb of Atlanta, GA wants to place three prominent Advertisement boards, within a few kilometers of their business. The goal is to place the ad boards at the center of (3) areas, which have the highest density of eateries/restaurants. The distance from Ad site to the client's shop should be relatively short, because the intention is to generate traffic directly from those areas, and most people won't consider driving too far on an impulse. The logic for such ad placement is that it has the potential to capture the attention of two key groups:

1. Dining guests who are having a meal in those areas, but who may be enticed to go a short distance for desserts &/or coffee at the client's Dessert Shop.
2. People who are in those areas because they are looking for a place to eat, but they are undecided. In that case, an attractive advertisement may persuade them to visit the nearby Dessert Shop.

So, the goal is to find central points of the three highest density eatery areas, within the local area of the Dessert Shop.

Data (This Section is for Week 1, Part 2)

We will need Foursquare location data for all eatery/restaurant venues within the target radius of the client's business. This may require exploring all venue categories at first, to make sure we are including all of those that are "eatery/restaurant" type. Each record will need to include the applicable business location, for the purpose of mapping, clustering, and finding the highest density areas. Once we get the correct dataset from Foursquare, including only the venues of selected categories, and within the specified radius, we only need a dataframe with VenueID, such as the Business Name, and the Geo coordinates of each venue.

The dataset will therefor look like:

| VenueID | Latitude | Longitude |
|--------------------------|------------------|-------------------|
| 4b4429abf964a52037f225e3 | 40.8744117711023 | -73.9102710098157 |
| 4baf59e8f964a520a6f93be3 | 40.8768436907979 | -73.9062038441952 |
| . | . | . |
| . | . | . |

This is just an example, and VenueID could end up being the place names, if duplicates are not an issue.

Methodology

Results

Discussion

Conclusion