WEEK 4

THE CLASH OF NEIGHBORHOODS

PROBLEM: How To Find The Best Neighborhood In Toronto Based On Specific Needs And Requirements?

BACKGROUND

For an individual looking for a new apartment that's close to their new place of work, it can, unfortunately, be a challenge with the yearly increase in house prices across the province to find an affordable place to call home. Yes, one can easily go on Craigslist or Kijiji and find a sweet deal but with hidden additional expenses in transportation. When considering a new location for settlement, the factors considered are often the proximity of other establishments to a prospective location. Let's take Brian for example who is a nerd that enjoys the active lifestyle, a vegan, a current grad with an entry-level job position. How can Brian find the best neighborhood that would satisfy all his needs and requirements with his current work situation as an entry-level? A common denominator for Brian would be minimizing the cost of transportation from one place to the other. Brian would need a good gym location, farmers market, or grocery store where he's able to get fresh foods to support his Vegan lifestyle, and a good public library to enjoy his quiet time which is in close proximity to other said locations. Brian's search for the best location for housing can be executed effortlessly with the use of location data to find a neighborhood that's close to all the establishments he's going to frequent on a daily or routine basis.

DATA

The data to be used would be based on the neighborhoods in Toronto and it would be retrieved from Foursquare. Just like the newyork_data explored during the learning modules, our Toronto data would have the same structure and layout. The data has some very useful features including venues, store reviews, longitude and latitude, names of the neighborhood, categories of venues, types of stores, and so on.

HOW DATA WILL BE USED TO SOLVE PROBLEM

The goal of the project is to find the best location in a neighborhood that fulfills the majority of the requirements an individual needs in locating the best neighborhood. From our data, we can extract information about the venues that are within a given radius of a specific location (i.e. longitude and latitude). For example, if Brian should find a new listing at a particular location, we can request from foursquare to display a list of venues available within a specific radius to explore what's around that location. Another available feature is the rating/reviews of each venue from previous visitors, which can be used as a judgment for how good of a service an establishment offers to its customers. Also, since every venue has its location specified by longitude and latitude, we can perform numerous operations by calculating the corresponding distance between venues of interest to the location specified by the user to locate the closest venues of interest to our user. In the grand scheme of things, if a user has multiple listings that they want to explore, they can specify their requirements (e.g. gyms, coffee shop, grocery stores, libraries, banks, and so on), and based on the requirements, the machine learning algorithm developed would provide a list of venues available and ranked from the shortest to the longest distance.

Based on the insights provided, a user can easily figure out the best option which they know would meet the needs of their daily adventures.

POTENTIAL USERS

1. **ENTREPRENEUR**: People looking for the best neighborhood to set up their business to draw in customers from mutual establishments available in a particular neighborhood.
2. **PARENTS**: A family of kids might want to locate the safest neighborhood to raise that children which perhaps has fewer establishment of businesses, as a result, would offer a more quiet lifestyle.
3. **INVESTORS**: Real estate investors or corporate entities looking for the most lucrative location to invest to attract a wide range of home renters or clients.