**Coursera Capstone Project – The Battle of Neighborhoods**

**Week 1**

**Introduction:**

* 1. Background:

Toronto is the capital and the chief urban center of Canada. With the recorded population of 2,731,571 people, it stands as the most populous city in Canada and the 4th most populouse city in North America. It is the international center of business, arts, finance, and culture, and is recognized as one of the most multicultural cities in the world. Toronto is also home to the Toronto stock exchange which makes its economy highly diversified with strengths in technology, financial services, design, life sciences, and education.

The coordinates of Toronto, Canada are 43.6532 N, 79.3832 E

As of today, Berlin is divided into 12 boroughs as provided below:

* 1. Problem:

I would like to open up an Indian restaurant somewhere in Toronto. Which city would I benefit the most from?

* 1. Interest:

Anyone who may have a similar problem can easily modify and change the data that will allow the solution to be more accustomed to their problem

**Data:**

2.1 Data Sources:

In order to find a solution to our problem, we must be able to obtain data from the subjects below:

* Neighborhood data of Toronto from Wiki
* Python geocoder library to get geographical coordinates of neighborhood
* Foursqaure API calls to get venues within a 500 meter radius of a given neighborhood
* Foursquare API calls to get ranks and likes of restaurants by given venue id

2.2 Data Usage:

With the neighborhood location values/data I will be able to analyze Toronto’s geographical structure by using the folium library to place points by the longitude and latitude of the neighborhoods.

By using the Foursquare API calls I will be able to classify the neighborhood by viewing the venues distribution and counts. This will allow me to find similarities in neighborhoods which will help me to choose a location for opening a new Indian restaurant. This list will also let me see the distribution of possible Indian restaurants in the area and if so, which neighborhoods are lacking any Indian establishments

I will find the top 10 most visited venues in each neighborhood and use that data to formulate a conclusion. This will illustrate the diversity among the people in and around the neighborhood and what possible cuisines they enjoy more.

**Results/Conclusion:**

After conducting obtaining the most common venues from each neighborhood, there were only five that resulted in having an Indian Restaurant within the top 10 most visited venues. Of the 5 neighborhoods, two had an Indian restaurant as the 10th most common venues, with the other top 9 being generic restaurants like fast food and American style restaurants. I would not pick either of the two neighborhoods (Steels West and The Annex) because neither showed any diversity in preference of food. Thorncliffe Park, however, had an Indian restaurant as their 1st most common venue. Although this location may seem like a perfect place to establish my restaurant, I would not like to have to compete with an already loved Indian establishment, therefore I would not pick Thorncliffe Park. Dorset Park also has an Indian Restaurant as its 1st most common venues, however, the other 9 most visited venues included diversity. Dorset Park’s top 10 venues include an Indian, Chinese, Vietnamese, and Dim Sum restaurant hence showing that the community within Dorset Park have a diversified taste. However, I would pick Bedford Park to be the location for my Indian Restaurant. Although the neighborhood has an Indian restaurant as their 8th most common venue, it included an Italian, Thai and sushi restaurant as well. Bedford and Dorset, although may have the same number of different restaurants, Bedford prefers to eat more international food rather than that of the Asian cuisine like those in Dorset Park.

Bedford Park would be the perfect place to install my Indian Restaurant as the people are already familiar with the Indian cuisine and have a more diverse pallet.