The premise of this investigation is to help a little gathering of financial specialists wanting to open their first U.S. based bottling works/café extension in Toronto. Being that Toronto is the most populated city in Canada, and constantly positions as a significant worldwide city dependent on a high caliber of living, the decision to venture into the neighbor of the north market was a simple choice for the contributing gathering. Nonetheless, with restricted information on the Toronto advertise, the gathering of speculators have chosen us to aid the choice of which zones of Toronto will encourage a dispatch of their bottling works/café extension. They are keen on working in a zone that meets the accompanying models: An area with a normal to better than expected complete populace Better than expected populaces of 25–40-year-old male and female experts A high grouping of the populace having optional instruction Normal to better than expected middle net family unit salaries With these standards given by the contributing gathering, in light of past achievement in different markets, the goal is to find and prescribe to the financial specialists, the intended interest group, which neighborhood(s) of Toronto will be the most ideal decision to begin their global development plan. The data picked up will help with picking the correct area by giving information about the number of inhabitants in every area, notwithstanding other built up scenes present in these territories. Furthermore, this data could bear some significance with other potential financial specialists hoping to open another café or amusement scene in Toronto.

**RUBRIC**

**PLEASE NOTE:**Please be courteous to your course mates and provide them with meaningful feedback if you believe they do not deserve a full mark. I am sure you would appreciate the feedback if you were in their shoes, so **do unto others as you would have them do unto you.**

How do you rate the business problem and the discussion of the problem or the idea proposed by this student?

|  |  |  |
| --- | --- | --- |
|  | 0 points  Poor. The problem is not well-explained and it seems like the student did not put any thought into how that problem would be of interest to a client. Although the problem might seem technically interesting, it is not clear who would care about it and why. |  |
|  | 10 points  Good. The problem is clearly explained and I totally understand the background related to the problem and why it is important to solve. However, the student missed explaining who the target audience is and who would care about this problem. |  |
|  | **15 points**  **Excellent. The problem is clearly explained and I totally understand the background related to the problem and why it is important to solve. Also, the target audience is clearly stated.** | Photo of learner Minar Munasib |

**PROMPT**

Describe the data that you will be using to solve the problem or execute your idea. Remember that you will need to use the Foursquare location data to solve the problem or execute your idea. You can absolutely use other datasets in combination with the Foursquare location data. So make sure that you provide adequate explanation and discussion, with examples, of the data that you will be using, even if it is only Foursquare location data.

This submission will eventually become your **Data** section in your final report. So I recommend that you push the report (having your **Data** section) to your Github repository and submit a link to it.

Information — The essential data required by the contributing gathering will originate from the accompanying sources: City of Toronto Neighborhood Profiles for giving an outline of the areas in Toronto City of Toronto Open Data Catalog : The Census of Population is held across Canada at regular intervals (the last being in 2016), and gathers information about age and sex, families and family units, language, movement and inward relocation, ethnocultural decent variety, Aboriginal people groups, lodging, training, salary, and work. City of Toronto Neighborhood Profiles utilize this Census information to give a representation of the segment, social and financial attributes of the individuals and family units in every City of Toronto neighborhood. The profiles present chosen features from the information, yet these going with information documents give the full informational collection gathered for every area. In these profiles of the City of Toronto's 140 social arranging neighborhoods. These social arranging neighborhoods were created by the City of Toronto to support government and network associations with nearby arranging by giving financial information at an important geographic territory. The limits of these social arranging neighborhoods are predictable after some time, taking into consideration examination between Census years. Neighborhood level information from an assortment of different sources are additionally accessible through the City's Wellbeing Toronto planning application and here on the Open Data entrance. Every information point in this record is introduced for the City's 140 neighborhoods, just as for the City of Toronto all in all. The information is sourced from a few Census tables discharged by Statistics Canada. The general Census Profile is the fundamental source table for this information, however different Census tables have likewise been utilized to give extra data. CSV File City of Toronto Neighborhood Shapes for planning : GeoJSON File Wikipedia for Toronto Neighborhood Borough Designation : Each of the 140 social arranging neighborhoods of Toronto live inside a characterized district. While the City of Toronto is a solitary region, the 140 neighborhoods are as yet assembled into six particular wards. Foursquare API to gather data on different settings/rivals in the areas of Toronto

City of Toronto Open Data Catalog : The Census of Population is held across Canada at regular intervals (the last being in 2016), and gathers information about age and sex, families and family units, language, movement and inward relocation, ethnocultural decent variety, Aboriginal people groups, lodging, training, salary, and work. City of Toronto Neighborhood Profiles utilize this Census information to give a representation of the segment, social and financial attributes of the individuals and family units in every City of Toronto neighborhood. The profiles present chosen features from the information, yet these going with information documents give the full informational collection gathered for every area. In these profiles of the City of Toronto's 140 social arranging neighborhoods. These social arranging neighborhoods were created by the City of Toronto to support government and network associations with nearby arranging by giving financial information at an important geographic territory. The limits of these social arranging neighborhoods are predictable after some time, taking into consideration examination between Census years. Neighborhood level information from an assortment of different sources are additionally accessible through the City's Wellbeing Toronto planning application and here on the Open Data entrance. Every information point in this record is introduced for the City's 140 neighborhoods, just as for the City of Toronto all in all. The information is sourced from a few Census tables discharged by Statistics Canada. The general Census Profile is the fundamental source table for this information, however different Census tables have likewise been utilized to give extra data. CSV File City of Toronto Neighborhood Shapes for planning : GeoJSON File Wikipedia for Toronto Neighborhood Borough Designation : Each of the 140 social arranging neighborhoods of Toronto live inside a characterized district. While the City of Toronto is a solitary region, the 140 neighborhoods are as yet assembled into six particular wards. Foursquare API to gather data on different settings/rivals in the areas of Toronto

Methodology — In request to build up the focused on neighborhood(s), we will investigate the socioeconomics of the areas in the city of Toronto by sectioning the information and leading expressive examination utilizing Panda. Extra information will be gathered by web scratching and API will be utilized to produce information.

Information Group 1

Stage A — Census Data

1. Information was maneuvered into from the City of Toronto Neighborhoods Profile Census CSV File to make a dataframe.

2. This dataframe contains all the enumeration information (2016) of the areas of Toronto that will be separated.

3. Information is separated into sections dependent on neighborhood populace, male and female age gatherings, instruction level, and after-charge salary.

Stage B — Web scratching to adjust neighborhoods to districts

1. Wikipedia page for Toronto Neighborhood Borough Designations is scratched utilizing BeautifulSoup.

2. Scratched information is changed to dataframe.

3. Union this dataframe with Census Data dataframe.

Stage C — Pull Toronto shape document

1. Get the shape document.

2. Expel pointless information and converge to past dataframe.

Information Group 2

Stage A — Establish Medians and scoring framework

1. Figure medians of the segment segments over the 140 neighborhoods.

Middle Population: 16749.5

Middle Higher Education: 4122.5

Middle Female: 1952.5

Middle Male: 1800.0

Middle After Tax Income: $36538.5

2. From the measures conveyed by the financial specialist gathering, every class was given a normalized score based the classification being partitioned by its middle score and afterward duplicated by a factor of given significance. The segments are the added to make an all out score for every area. The dataframe is then converged to make a dataframe with every important datum.

3. From here, using a choropleth folium map, a more clear image of the areas of Toronto gets obvious.

Toronto Neighborhoods scored 0.00–8.00

Information Group 3

Stage A — Toronto geological information is used as the contribution to the Foursquare API, that returned scenes from the entirety of Toronto

1. Utilizing the geological directions of every area in Toronto, calls are made to the Foursquare API to restore the main 100 settings in a sweep of 1610 meters, roughly a one-mile span.

2. The information is then pictured by means of a folium map.

Top 100 scenes in every one of the 140 Toronto Neighborhoods

3. Foursquare is approached again to limit the rundown to the areas inside the best fifteen (15) all out score (with indistinguishable boundaries from the past call), and this information is planned also.

Top 100 scenes constrained to the best 15 complete scored neighborhoods of Toronto

Information Group 4

Stage A — Analyze the Top 15 neighborhoods of Toronto

1. Use one hot encoding to change our rundown of built up settings in the best 15 neighborhoods to restore a state of (1198, 208).

2. Gathering by neighborhoods. Channel out scenes identified with retail and individual consideration classifications to concentrate on action focused settings (for example bars, dance club, eateries, attractions, and so forth… ). Make a little dataframe to show sums for every area.

All out number of settings in neighborhood in the wake of separating

3. Drop neighborhood Rogue because of extraordinary impediments on settings after definite channel.

4) Results — With the information currently prepared, we run k-intends to bunch the areas into three (3) groups. The group number was built up after numerous samplings and emphasess. With our groups built up, this dataframe is converged with the all out scores information to furnish us with our last bits of standards in choosing the proper neighborhood(s).

The last dataframe:

2. The groups are pictured by means of a stamen toner folium map:

5) Discussion — From the outcomes found and introduced, the accompanying perceptions and suggestions can be made:

In light of the rules given by the speculator gathering and the bunch information, the fundamental neighborhood suggestion would be for the area of Waterfront Communities — The Island. With an absolute score of 6.86 and being in the bunch 0 (a mean of 58 settings/neighborhood), this zone is a prime area for a leader bottling works/eatery.

An optional proposal is made for the area of Islington-City Center West. This area a positioning in the main five all out score evaluation, just as having less rivalry (just 36 scenes inside a one-mile range).

Moreover, from the grouping, it turns out to be evident that city of Toronto transmits starting there in a roundabout example outward as far as engaging attractions. While it was excluded from the examination and investigation, business area rental rates will in general follow this pattern too.

6) Conclusion all in all, the extent of this of the investigation is to some degree restricted. The friendliness business is ever changing, and the data managed us might be dated due to depending on client data by means of Foursquare. By and large however, the model made can without much of a stretch be reproduced over and over with checked information by means of the Foursquare API and the information from the pending registration in 2021. With the information investigated and scoring framework built up by the financial specialist gathering, we remain by the proposals made.