Theater-Cafe in Toronto

August 2019

1. Introduction

1.1 Background

My friend and I are Theater-players and the economic life does not go well, as we do not have show the whole year. On the other hand, we do not have any activity to do, when we are not preparing for the Theater. We have understood, that we enjoy sittings in the Cafes and observing people. From our Theater background, we are interested to make a small story about all the people that we saw in the cafe. We also saw some people, who were alone in the Cafe and the whole time, they were playing with their mobile phone. They could have other interests, for example, shows and theaters. At some point, we came to the idea of opening a Theater-Cafe, in which we can serve Cafe to our guests and if they like, we can play a five-minute show of a story.

1.2 Problem

There are many kinds of Cafes and Bars in Toronto. We have a great idea of the Theater-Cafe and before we start this business, we should think of a good place to start our Cafe. So we can be successful in this business. There are many neighborhoods in Toronto. Which of them is the best for our Theater-Cafe?

1.3 Interest

This problem can be interesting for all the people who want to start a new combined business. There are already many Cafes and Restaurants. What should be special in a Cafe to be visited more? If we do want to concentrate on starting a business, our results can be still interesting, as we find the information about the distribution of the cafe as well as cultural points of Toronto.
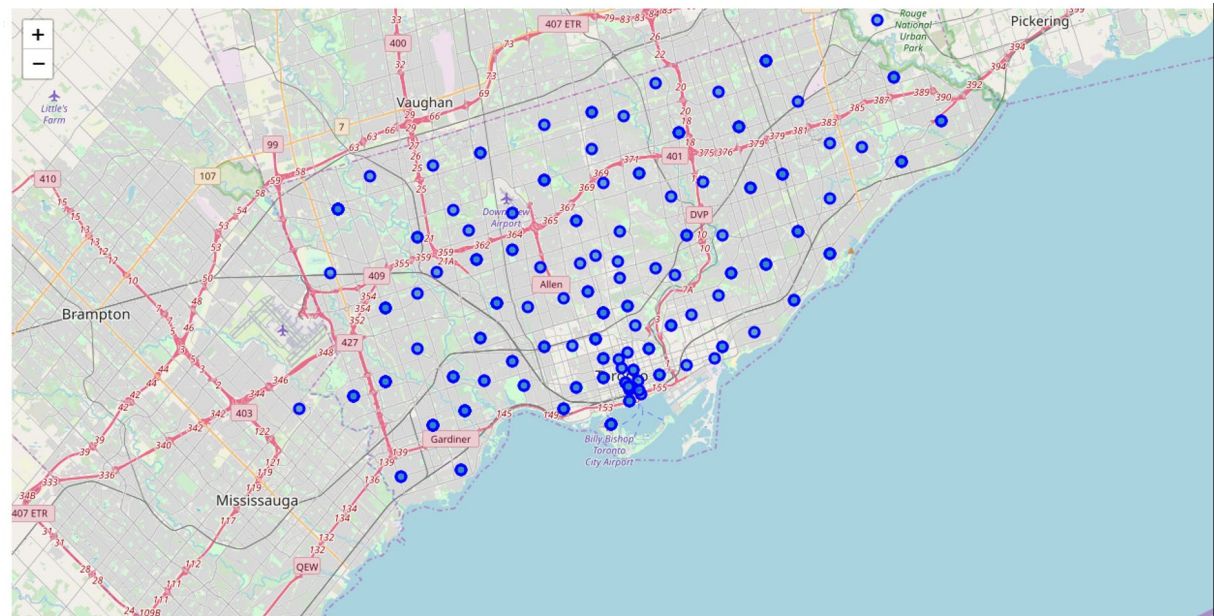
2. Data acquisition and cleaning data

2.1 Data sources

First, we scrap the Wikipedia-site https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M, in order to obtain the data of postal codes of Toronto with the name of the neighborhood as well as its Borough. Then we apply the Foursquare to utilize the location data of the neighborhoods in Toronto. A small part of this information is shown in the following:
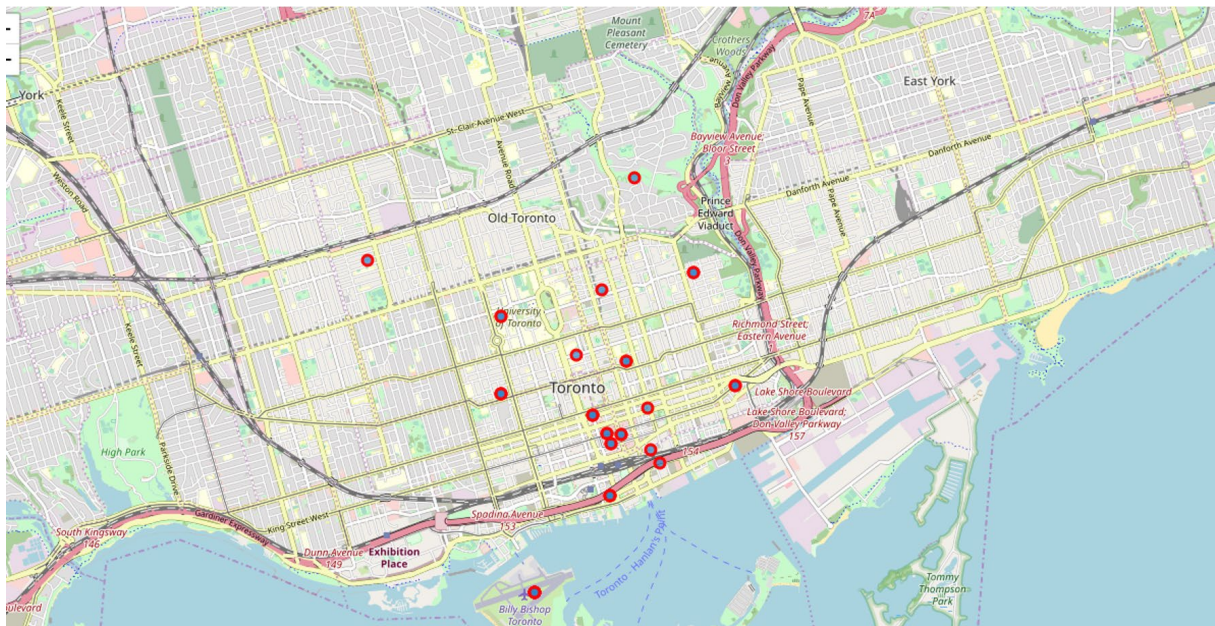
	Borough	Neighbourhood	Latitude	Longitude
0	North York	Parkwoods	43.753259	-79.329656
1	North York	Victoria Village	43.725882	-79.315572
2	Downtown Toronto	Harbourfront	43.654260	-79.360636
3	Downtown Toronto	Regent Park	43.654260	-79.360636
4	North York	Lawrence Heights	43.718518	-79.464763
5	North York	Lawrence Manor	43.718518	-79.464763
6	Queen's Park	Queen's Park	43.662301	-79.389494

3. Data cleaning

It is sufficient to correspond each postal code with one neighborhood, so the neighborhoods who are corresponded to one postal code has to be merged. Moreover, the Borough and neighborhoods which are not assigned in our table should be omitted. In the end, we can check if there exist any duplicate row. After having unique a classified table of all the neighborhoods, we get the latitude and the longitude coordinates of each neighborhood with Foursquare. We should also check the data frame over and over again to have a clear classification of all the neighborhoods.

As we see, Toronto is a huge city and we want to invest our business in downtown for the higher probability of success. So,we only concentrate in Downtown of Toronto.
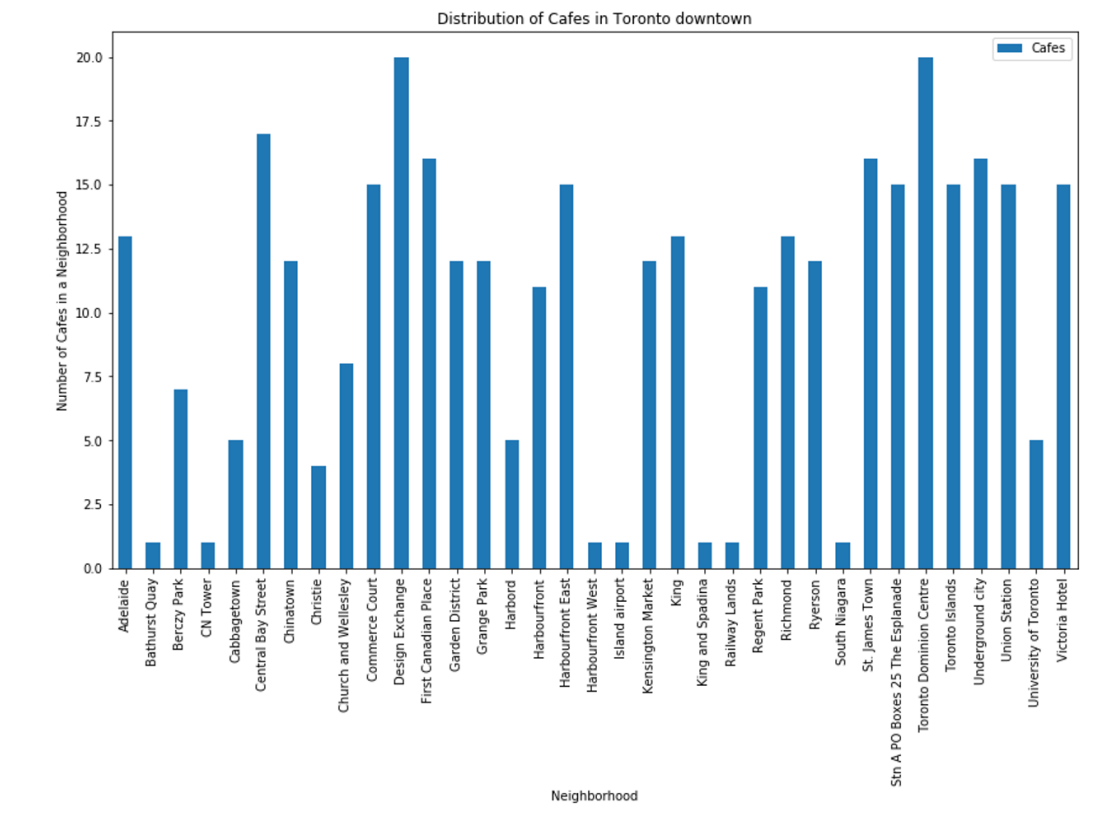
With the help of Foursquare, we have a clean data frame of each neighboorhood in downtown Toron to as well as ist Venues and the geographical coordinates. As we see, there exist too many venues, th erefore we concentrate on 100 number of venues, which are located in downtown with radius of a ha lf Kilometer, which includes for example the venues: Harbourfront - Regent Park – Ryerson - Garden D istrict - St. James Town - Berczy Park, etc.

This neighborhood has many different categories such as Cafe, Spa, Restaurant, Park and etc, from them, we are now interested in Cafes and Theaters:
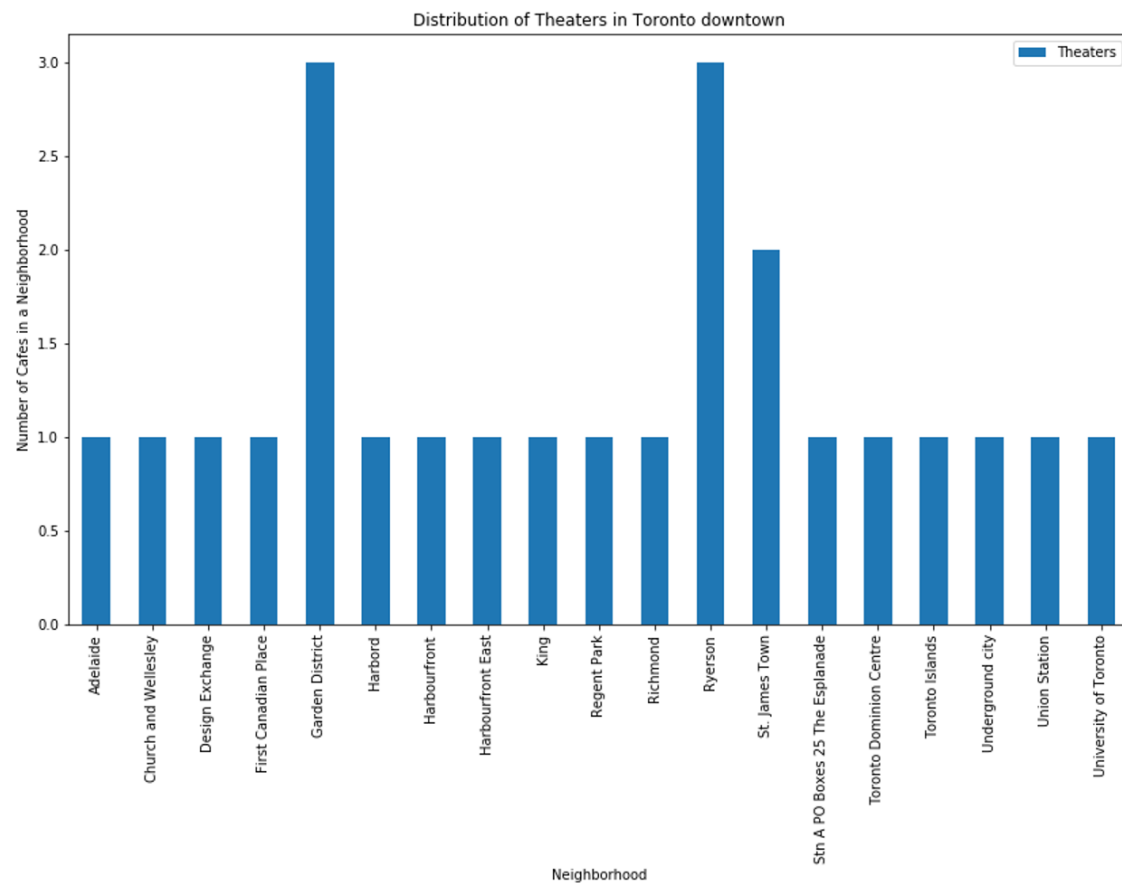
	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Harbourfront	43.65426	-79.360636	Roselle Desserts	43.653447	-79.362017	Bakery
1	Harbourfront	43.65426	-79.360636	Tandem Coffee	43.653559	-79.361809	Coffee Shop
2	Harbourfront	43.65426	-79.360636	Toronto Cooper Koo Family Cherry St YMCA Centre	43.653191	-79.357947	Gym / Fitness Center
3	Harbourfront	43.65426	-79.360636	Body Blitz Spa East	43.654735	-79.359874	Spa
4	Harbourfront	43.65426	-79.360636	Morning Glory Cafe	43.653947	-79.361149	Breakfast Spot

3.1 Feature selection

Theoretically, we can have our Cafe in any street of the downtown, but it does not seem a very clever idea, as there could already exist popular Cafes in the same venue. It reduces the number of our guests and it makes our start-up harder. So, let us see the distribution of the Cafes in different neighborhoods of downtown. Generally, it exists 360 Cafes in downtown. How can we know where they are? The Cafes should be normally in a group of Cafes or Coffee-Shops. It is not a very surprising result, that every neighborhood in downtown has at least one Cafe.
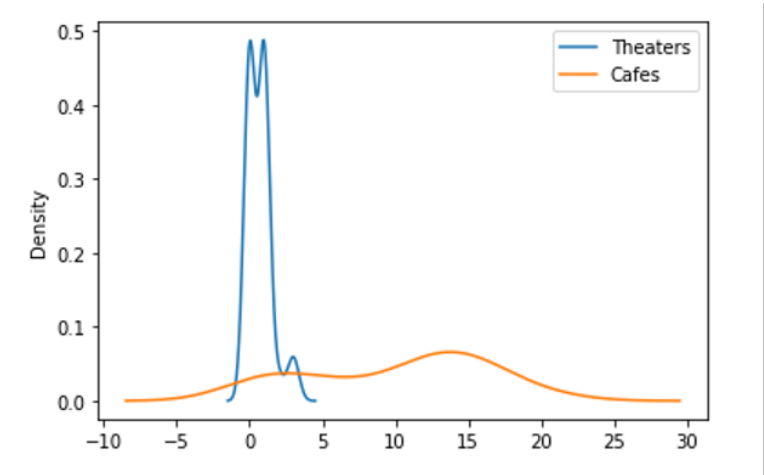
Distribution of Cafes in Toronto downtown

At this point, we get that, it already exist enough Cafes, but not very Theaters. The idea of Theater can save our business, because the distribution of Theaters in Toronto is not as dense as Cafes:

Distribution of Theaters in Toronto downtown
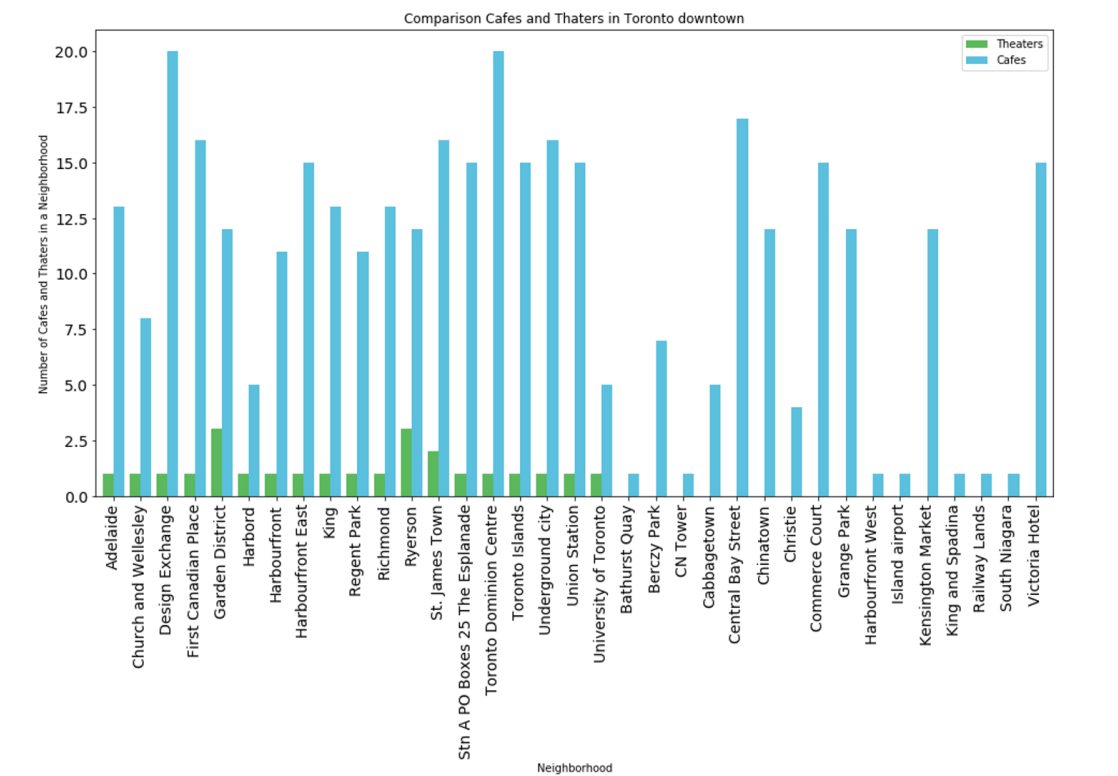
4. Data Analysis

4.1 Calculation of variables

Now, we should be how Theaters and Cafes are distributed in downtown. The following diagram confirms that we do need to concentrate on Theater-idea, as it does not seem to have a normal distribution.
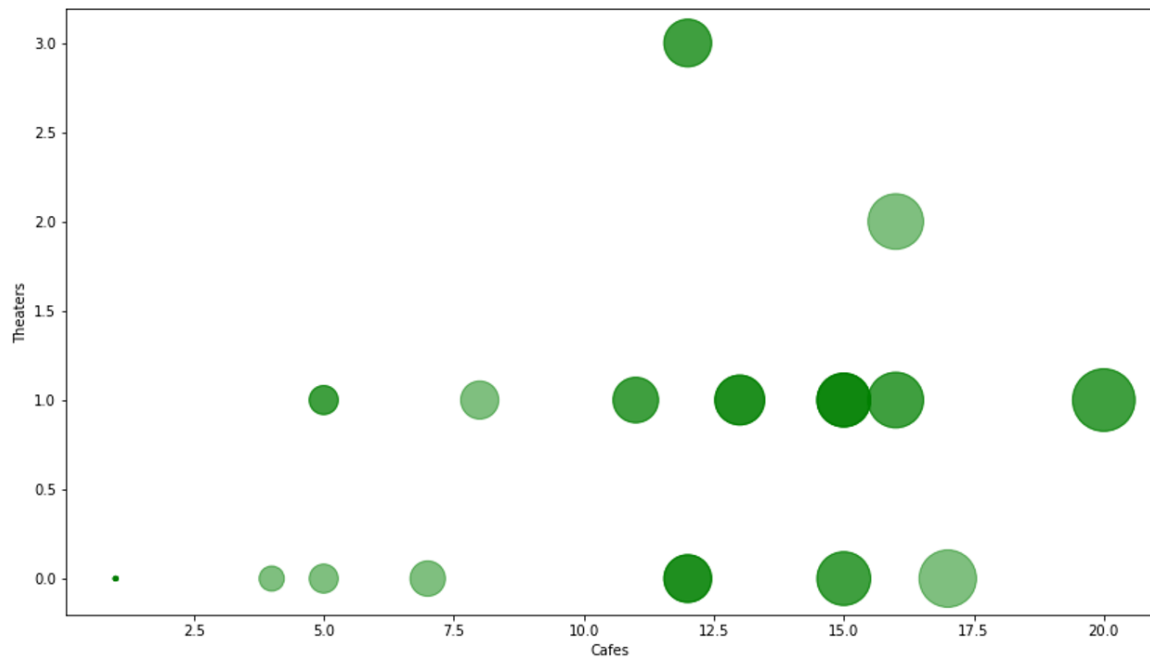

4.2 Relationship between Cafes and Theaters

We have separately sawed the distribution of Cafes and theaters, but does exist one Theater in each neighborhood? The following comparison denies this assumption. There exist neighborhoods in downtown, who are very poor in Theater-community.

As it can be confirmed with the following diagram, which is very colorful around the Cafe-axis:

5. Predictive Modeling

Our prediction ist: we can have a successful Theater-show, if we not have a competitor in our chosen neighborhood. So let us concentrate on the neighborhoods, which do not have any theater:

- Bathurst Quay
- Berczy Park
- CN Tower
- Cabbagetown
- Central Bay Street
- Chinatown
- Christie
- Commerce Court
- Grange Park
- Harbourfront West
- Island airport
- Kensington Market
- King and Spadina
- Railway Lands
- South Niagara
- Victoria Hotel

Which of these neighborhoods can create us a cozy environment for a successful Theater-Cafe? What does this naighborhood have as a priority?

We ask us the question again: who can be interested in Theater? Definitely, we do not ask this question for Cafes, as many people already are daily customers of Cafes. With a higher possibility, we can have educated people to e interested in such an offer. Where can we find these people? The ones, who already work, are probably too busy to come to our Cafe during the day, so probably young people

would be the biggest group of our customers. They should be not far away from universities or colleges. Let us find the corresponding neighborhoods, which are not many, according to Foursquare:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	VCategory
136	Ryerson	43.657162	-79.378937	Ryerson Athletics Centre	43.658434	-79.379296	College Rec Center
236	Garden District	43.657162	-79.378937	Ryerson Athletics Centre	43.658434	-79.379296	College Rec Center
1559	Harbord	43.662696	-79.400049	Athletic Centre	43.662487	-79.400657	College Gym
1573	Harbord	43.662696	-79.400049	Innis Town Hall	43.665420	-79.399546	College Arts Building
1593	University of Toronto	43.662696	-79.400049	Athletic Centre	43.662487	-79.400657	College Gym
1607	University of Toronto	43.662696	-79.400049	Innis Town Hall	43.665420	-79.399546	College Arts Building

5.1 applying method

Up to now, we have 16 neighborhoods which do not have Theaters and we already found 6 neighborhoods, which have our potential customers. Where should we open our Theater-Cafe?
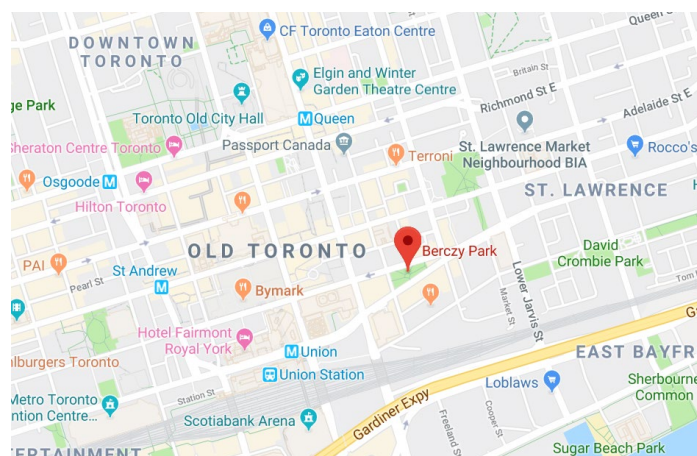
As a student in college, I would not have too much time to spend on the bus to get another part of the city for Cafe. So we would concentrate to find a minimum distance from one of the College-neighborhoods and one oft he neighborhoods, in them there does not exist any Theater.

5.2 Solution to the problem

With the help of geographical information of these neighborhoods, we get the following answer

„The Theater-Cafe should be in a neighborhood between Berczy Park and Downtown Toronto"

Which should be a nice place

with the following view:

Berczy Park fountain — photo courtesy Industrious Photography

6. Conclusion

In this study, I solved the problem of finding the best location downtown in Toronto to open a Theater-Cafe. I studied the distribution of Cafes and Theaters in the city. Then I analyzed the relationship between them and their distribution data. I identified in which neighborhoods, I do have a higher possibility to have more customers. On the other hand, I considered another different parameter which can affect my business. I classified different situation and the combination of neighborhoods to find the best location, and at the end, I could successfully come up with a venue for opening my new daily happy business.