**full report**

**Introduction where you discuss the business problem and who would be interested in this project**

Let's assume that the research has been requested by a prosperous and fruitful restaurant from Europe who is keen on extending trade operations into Toronto. He needs to make a restaurant that will serve and offer the complete lavishness of European culture and cooking to the individuals of Downtown Toronto. Since Downtown Toronto is exceptionally ambitious in terms of the restaurant domain, my client needs an understanding of the market in order to choose in which neighborhood to set up this trustworthy European diner.

**Data where you describe the data that will be used to solve the problem and the source of the data**

Description of the data: The project will utilize freely accessible information from Wikipedia and Foursquare. Precisely, all Toronto neighborhood complex elements besides their postal codes are accessible here: https://en.wikipedia.org/wiki/List\_of\_postal\_codes\_of\_Canada:\_M. The center of this venture will be the Downtown Toronto neighborhoods that will be analyzed accordingly. The Foursquare API will be used to get the geological area information for Downtown Toronto, and data will be utilized to investigate the eatery within the neighborhoods. The restaurants will give the categories required for the investigation and these will be utilized to decide the reasonability of the chosen areas for the European food establishment. How information will be utilized to find a solution: The information from Wikipedia and Foursquare will be investigated and analyzed by restaurants in Downtown Toronto. The eateries from the center of the city will be checked on in terms of the sorts of categories of eateries inside a particular radius. The information will be utilized to come up with a recurrence examination for a European restaurant in Downtown Toronto and to come up with the most accurate choices of neighborhoods for the client.

**Methodology section which represents the main component of the report where you discuss and describe any exploratory data analysis that you did, any inferential statistical testing that you performed, if any, and what machine learnings were used and why**

I used many libraries to analyze data. For example, I used pandas library to clean the data. Also, I used folium map to visualize the neighborhoods in Totonto downtown. I used K-means machine learning method because I wanted to find the clusters in Toronto downtown to make a report for which neighborhood is more appropriate to open the European restaurant.

**Results section where you discuss the results**

The number of clusters in my project is five. In the first cluster there are 18 neighborhoods, in the second, third, fourth, fifth one neighborhood.

**Discussion section where you discuss any observations you noted and any recommendations you can make based on the results**

Now we must see if in the five clusters there are may restaurants. In the first cluster there are many restaurants, in the second there are 3 restaurants (5,6,8 most common venue), in third there is no restaurant, in fourth there are 4 restaurants (3,4,6,8 most common venue), in fifth there are 2 restaurants (5,7 most common venue). My recommendation is that you must open your European restaurant in the neighborhood CN Tower Bathurst Quay Island airport Harbourf (third cluster) because there is no restaurant in this neighborhood.

**Conclusion section where you conclude the report**

At the conclusion I suggest my client to open her restaurant at the neighborhood CN Tower Bathurst Quay Island airport Harbourf and I believe this is the best choice for her to attract the residents of this neighborhood. Now, there isn’t any competition at this neighborhood.