**Problem Statement:**

**This work explains how the neighborhoods of Toronto have potential for Food Truck business development in several neighborhoods.**

**Project Background:**

Toronto being the financial capital of Canada is one of the densely populated cities in the world. This city sees a lot of diversity resulting from the movement of a lot of immigrants from several parts of the world for work and settlement. The current food truck business is booming in many neighborhoods. So for stakeholders who are interested in low investment business will get benefits from this analysis. The Foursquare API is used for the project which will get which neighborhoods have a potential for this business and population density to have a successful earnings.

The purpose of this whole exercise is for submission of the capstone project for the **"IBM Data Science"** course on Coursera as well as to showcase my data science skills in the real-world application.

**Data and Resources to be used**

The data used for this project are manipulated in a way which gives a list of potential neighborhoods that have potential for food truck business. The Toronto neighborhood is made using the Wikipedia webpage. Foursquare database is used to sort neighborhoods based on their current food truck business traffic. The Wellbeing Toronto webpage is used to get and compare the resulting neighborhood from K-Mean analysis to further sort them population density-wise. This will give the most favorable neighborhood for the business and stakeholders can make an informed decision about investment.

1. List of postal codes of Canada Wiki: [**https://en.wikipedia.org/wiki/List\_of\_postal\_codes\_of\_Canada:\_M**](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M) for access to neighborhood data of Toronto region.
2. Geographical coordinates of the neighborhoods: [**http://cocl.us/Geospatial\_data**](http://cocl.us/Geospatial_data) for getting the longitude and latitude data for the neighborhoods.
3. The population density of Toronto city is graphed and displayed in the map <http://map.toronto.ca/wellbeing/#eyJ0b3Itd2lkZ2V0LWNsYXNzYnJlYWsiOsSAcGVyY2VudE9wYWNpdHnElzcwfSwiY3VzxIJtYcSTYcSXxIBuZWlnaGJvdXJob29kc8S2fcSrxIHEg8SFxIfEicSLdGFixYXEmCLEo3RpdmVUxZBJZMSXxYnEhMWPYi1pbmRpY2HEgnLFhcWIYWdzTWFwxLYiesWCbcSXMTHErHjEly04ODM2NDQ1LjAzNzk4OTTErMSnOjU0MjE0OTIuMcaNxow1NcWIxaTFpsWoxarFksSAxZjFq2lvbsSXMsSsc8WkZ2xlxbTErnLEk8SfVGltZcWcxKjErMWWxrrGpCI3xbRzZcaxY3RlZEnFpcWnxanEg8a8OseCMyLErMagx47FqsWcc0HFpVfEucS7dMWSW8SAxIfFnjfHlMSsd8efaHTFucSsxJPGpseFUG%2FEjnLEpcaQZmFsx4V9XcWHxYjGv2XHhce2yILFhsSsxrTGtnTHjMahx49yTcWDxrLHksaubsawxrLGn8eNxqLEg1PHhmXHiMSDxbTIgVR5xJrFnsiTyJXHlcSBxrnGu8WdOjfFhw%3D%3D>
4. Foursquare database: [**https://Foursquare.com**](https://foursquare.com/) to be used in order to explore the desired neighborhood data for various restaurant details and access the JSON files. This data shall be utilized to map the Food Trucks in various locations.

**Problem solving strategy**

The idea is to analysis Toronto region for its potential in Food Truck business development in terms of the population spread in each neighborhood. I will specifically compare the number of food trucks and population in the city as well as list down the 4 most common venues in city’s neighborhood wise. The outcome of this study will help tourists and new immigrants have an overview of the common venues in the city and which might further help them in their decision of travel or immigration choice.

**Step-wise approach of problem-solving:**

**Step-1:** Web scraping of the neighborhood data from postal codes of Canada Wiki-link. Clean the data by removing the missing values and store the data in a python Dataframe consisting of three columns namely: PostalCode, Borough, and Neighborhood

**Step-2:** Take the help of long-lat data from the geospatial data wikilink and append the geographical coordinates in the above dataframes to get new respective dataframes for further analysis.

**Step-3:** Getting location data using the Foursquare API. It will be used to retrieve information of the common venues in Toronto neighborhoods. The API will return a JSON file which will be further converted into a Python Dataframe.

**Step-4: Exploratory Data Analysis**

List down the 4 most common venues for city.

**Step-6:** Lastly we will discuss the results based on the above findings and provide a snapshot of neighborhood which will help stakeholders with their choice.