1. Introduction/Business Problem

I am VietNamese , "Phở" is a Vietnamese soup consisting of broth.

 In this project we will try to find an optimal location for a **Phở 24h restaurant**. Specifically, this report will be targeted to stakeholders interested in opening an **Phở 24h restaurant** in **New York**.

Since there are lots of restaurants in **New York** we will try to detect locations that are not already crowded with restaurants. We are also particularly interested in areas with no **VietNam restaurants** in city. We would also prefer locations as **close to city center** as possible, assuming that first two conditions are met.

We will use our data science powers to generate a few most promising neighborhoods based on this criteria. Advantages of each area will then be clearly expressed so that best possible final location can be chosen by stakeholders.

2. Description of the data

Based on definition of our problem, factors that will influence our decission are:

* number of existing restaurants in the New York city (any type of restaurant)

* number of and distance to Vietnam restaurants in the neighborhood, if any

* distance of neighborhood from city center (Latitude and longitude coordinates are: 40.730610, -73.935242)

We decided to use regularly spaced grid of locations, centered around city center, to define our neighborhoods.

Following data sources will be needed to extract/generate the required information:

* centers of candidate areas will be generated algorithmically and approximate addresses of centers of those areas will be obtained using **Google Maps API reverse geocoding**

* number of restaurants and their type and location in every neighborhood will be obtained using **Foursquare API**

* coordinate of New York center will be obtained using **Google Maps API geocoding** of well known New York location (Latitude and longitude coordinates are: 40.730610, -73.935242)