# Week4 The Battle of Neighborhoods (week1)

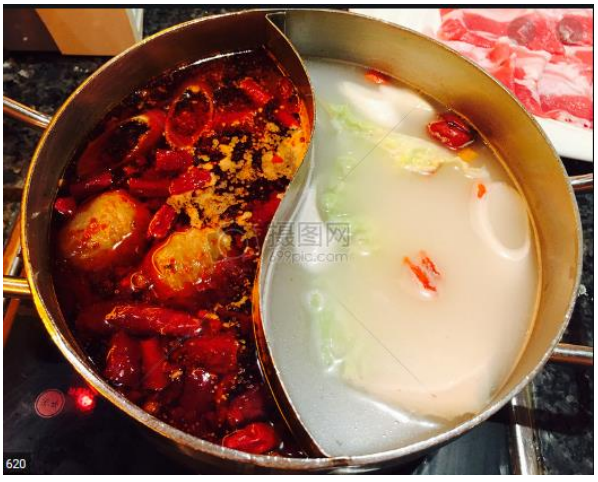
1. A description of the problem and a discussion of the background.

Background: Now COVID19 virus is spreading all over the world, people need to order home delivery food and are not allowed to eat in the restaurant. In Singapore, many people are from China and the most popular food for Chinese people is hotpot. More and more hotpot restaurant coming to Singapore in last few years because of high demand. Normally people are only familiar with restaurants near to their neighborhood and may not know all the restaurants.

Project objectives:
Now everyone is home quarantine and gets bord. But we can try new food when work from home. However people do not have all the data. This project is to analysis hotpot restaurant data in Singapore to cover the following topics:

a. Hotpot restaurants quantity and location in this island.
b. Clustering of the restaurants.
c. The region that has the most hotpot restaurants.
d. Trending venues. (There is no trending venues for now due to this special virus time.)
e. Rating for all restaurants. People can refer to the rating summary and place order to try something new accordingly during this pandemic period.

A picture of hotpot.



2. A description of the data and how it will be used to solve the problem.

a. The data will be from foursquare only. There is no ready data.
b. Use folium library to plot all the restaurant location.
c. Use K-means clustering to analysis clustering. 4 groups are generated.
d. Histogram plot to show the different distribution of different regions.
e. Explore the most popular restaurant “Hai Di Lao”. Get rating from foursquare.