

Introduction/Problem Statement:

GTH is a global company headquartered in Thousand oaks for organizing events, currently it works on a project to organize an event for 4 days for a group of tourists from all over the world to visit New York city). The company must determine a good program, including a hotel of residence, a hall for meetings, places of landscape to visit, places of shopping, restaurants and cafes. The company must make a list of places in New York, including the nearest restaurants, cafes, and shopping stores. And it must provide respective maps in case the tourists can't use his/her mobile application for any reason.

I have been assigned with a task by my company to find the list of above-mentioned places and submit it for their final tour program.

Data Description:

For this problem, we will get the services of Foursquare API to explore the data of New York City, in terms of their neighborhoods. The data also include the information about the places around each neighborhood like restaurants, hotels, coffee shops, parks, theater's, art galleries, museums and many more. We will use machine learning technique, "Clustering" to segment the neighborhoods with similar objects based on each neighborhood data. This will help to locate the tourist's areas and hubs.

Methodology:

We are going to explore and visualize New York's neighborhoods.

Detailed description of execution:

- 1- Import Libraries
- 2- Define Foursquare Credentials
- 3- Define New York city geography
- 4- Search clean data frame for following items:
 - Hotels
 - Restaurants
 - Places to visit (Parks, Museum, Art Gallery, Theater, Jazz Club)
 - Shopping stores
 - Cafeteria
- 5- Using machine learning technique- Clustering will help company to plan an itinerary for tourists:
 - Generate map to visualize hotels, shopping stores and cafeteria to show how they cluster together.
 - Generate map to visualize park, Restaurant and cafeteria stores to show how they cluster together.
 - Generate map to visualize Museum, Art Gallery, Restaurant and Cafeteria to show how they cluster together.
 - Generate map to visualize Theater, Clubs and Restaurant to show how they cluster together.