

Capstone Project - The Battle of Neighborhoods

Introduction

Background

New York City has been regarded as a popular vacation destination. One of the major attractions of this city is its unrivalled selection of cuisine from all over the world. Moreover, as a populous city with diverse culture, It is essential to identify and classify the various cuisine restaurants in New York City.

Problem

Based on the neighborhoods of New York City, the city can be categorically segmented into major clusters. Then, the restaurants can be examined according to the neighborhood clusters. This project, if implemented successfully, will help the stakeholders understand the diversity of New York City cuisine by leveraging location data from Foursquare API and k-means clustering unsupervised machine learning algorithm.

Target audience

The target audience for the project would be some companies or individuals who want to open a new restaurant in New York City. If someone is looking to open a restaurant, it is crucial to open it in the right place. This project, if implemented successfully, would also help tourists. Another stakeholder would be those who would like to investigate the diverse culture in New York City through various types of cuisine.

Data

1. New York City Neighborhood

New York City contains a total of 5 boroughs and 306 neighborhoods. In order to segment the neighborhoods and explore them, the dataset should contain the 5 boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates of each neighborhood.

The link to the dataset: https://geo.nyu.edu/catalog/nyu_2451_34572

2. Foursquare API

Foursquare is a social location service that allows users to explore the world around them. The Foursquare API allows application developers to interact with the Foursquare platform. This will be used to make RESTful API calls to retrieve data about venues in different neighborhoods. Data that can be extracted from Foursquare API include: Name, Category, Latitude, Longitude. Then, data will be automatically allocated into different categories, such as Event and Food.

The link to Foursquare API: <https://developer.foursquare.com/docs/>