

IBM Applied Data Science Capstone

Finding a best location to organize an International Science Conference

Background of the Problem

Materials Research Society (MRS) is a science organization planning to organize an international science conference in Los Angeles, CA, for four days and for invited scientists and researchers from all over the world. The MRS organization has to put a good program, including a hotel of residence, a hall for meetings, stores for shopping, restaurants and cafes. So the purpose of this project is to make a list of places in Los Angeles, CA, including the nearest restaurants, cafes, and shopping stores for each place.

Description of the Data

The data used in this project is provided by Foursquare location data. The data are grouped by landscape area, and each area included the information about this area and all information about restaurants, cafes, and stores which in this area.

Outline of the Solution

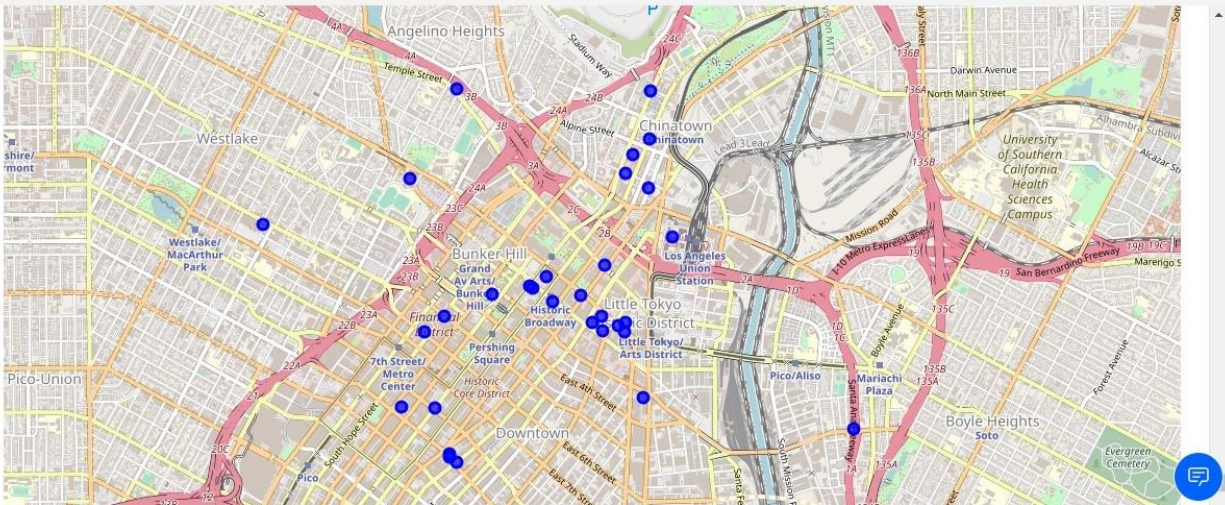
Importing Libraries, Define Foursquare Credentials, the city and get its coordinates (latitude & longitude).
Searching for Hotels, Restaurants, Cafeteria & Shopping Malls and prepare the dataframes.
Generating map to visualize Hotels, Restaurants, Cafeterias and Shopping Malls and cluster together.

Methodology

Getting latitude and longitude coordinates of Los Angeles, CA using Geocoder. Using Foursquare API to get venue data. Grouping data by neighborhood and taking the mean of the frequency of occurrence of each venue category. Filtering venue category by Hotels, Restaurants, Cafeterias and Shopping Malls. Perform clustering on the data by using k-means clustering.

Results & Discussion

The results of the clustering are visualized in the map below with blue color. The results from the k-means clustering shows that Downtown, Chinatown, Bunker Hill and Little Tokyo are the best locations to organize an international conference.



Conclusion

The Bunker Hill and Little Tokyo and their neighborhoods in are the most preferred locations to organize a conference. Findings of this project will help the organizers to utilize the opportunity on highly accessible locations to engage and entertain the international crowd.