The Battle of the Neighborhoods : Visakhapatnam City, INDIA

Applied Data Science Capstone Course by IBM/Coursera

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Data Description

Foursquare API:

This API has a database of more than 105 million places. This project would use Four-square API as its prime data gathering source. Many organizations are using to geo-tag their photos with detailed info about a destination, while also serving up contextually relevant locations for those who are searching for a place to eat, drink or explore. This API provides the ability to perform location search, location sharing and details about a business. Foursquare users can also use photos, tips and reviews in many productive ways to add value to the results.

Visakhapatnam City Data :

To get data about Boroughs, PinCode, and Neighbourhood we will scrape this data from a webpage (https://www.indiatvnews.com/pincode/andhra-pradesh/visakhapatnam) to create our own dataset.

Workflow:

HTTP requests would be made to this Foursquare API server using pin codes of the Visakhapatnam city neighborhoods to pull the location information (Latitude and Longitude).

Foursquare API search feature would be enabled to collect the nearby places of the neighborhoods.

Due to http request limitations the number of places per neighborhood parameter would reasonably be set to 100 and the radius parameter would be set to 700.

Folium- Python visualization library would be used to visualize the neighborhoods cluster distribution of Visakhapatnam city over an interactive leaflet map.

Extensive comparative analysis of two randomly picked neighborhoods world be carried out to derive the desirable insights from the outcomes using python's scientific libraries Pandas, NumPy and Scikit-learn.

Unsupervised machine learning algorithm K-mean clustering would be applied to form the clusters of different categories of places residing in and around the neighborhoods. These clusters from each of those two chosen neighborhoods would be analyzed individually collectively and comparatively to derive the conclusions.