

Coursera Capstone Project – Applied Data Science

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Introduction – Business Problem

- Hyderabad, located in the Southern India is fourth largest city in India and is rapidly growing. The city is famous for its varied cuisine and with existing variety of restaurant chains, starting a restaurant is difficult task.
- This project is to find a suitable place in the city to start a restaurant, which of course is dependant on several factors. Some of them are
 - Similar restaurants around the place
 - The connectivity to the place
 - The affordability of the potential customers around the place
 - Availability and real estate price of the location, etc.,
- This project deals with the fundamental analysis based on location and clustering the restaurants obtained from Foursquare API. The other factors mentioned above are not in the scope of this project though their significance cannot be neglected.

Introduction – Business Problem

- Business Problem:

What is the ideal location to start a restaurant in the city?

- Target Audience:

This project can help a lot of people wanting to start a restaurant business, as this pandemic is the right time to plan so as to implement as soon as the restrictions are lifted.

Data

Neighborhoods:

The data of neighborhoods in Hyderabad are extracted by web scraping using BeautifulSoup library in Python. In this case the source of the data is

https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Hyderabad,_India

Geo-coding:

After retrieving the data of neighborhoods into a pandas Data Frame, the latitudes and longitudes are obtained using geocoder package in Python

Venue details:

The venue details are obtained using Foursquare API.

<https://developer.foursquare.com/>

Data - Example

Neighbourhood Data

	Neighborhood	Latitude	Longitude
0	Badichowdi	17.388376	78.487785
1	Bagh Lingampally	17.397436	78.497971
2	Balkampet	17.446923	78.450451
3	Banjara Hills	17.417746	78.439901
4	Bank Street, Hyderabad	17.385717	78.480157

Hyderabad Venues_Foursquare API

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Badichowdi	17.388376	78.487785	Inox Maheshwari Paremeshwari	17.390728	78.488352	Multiplex
1	Badichowdi	17.388376	78.487785	Tarakarama Cineplex	17.390854	78.488539	Indie Movie Theater
2	Badichowdi	17.388376	78.487785	Cafe coffee day	17.385343	78.485875	Coffee Shop
3	Badichowdi	17.388376	78.487785	Swathi Coffee Shoppe	17.390521	78.491204	Coffee Shop
4	Badichowdi	17.388376	78.487785	KOTI BUS TERMINUS	17.384745	78.485059	Bus Station
5	Bagh Lingampally	17.397436	78.497971	Cafe Coffee Day	17.393138	78.497436	Coffee Shop
6	Bagh Lingampally	17.397436	78.497971	Fitbuzz fitness centre	17.394532	78.500041	Gym
7	Bagh Lingampally	17.397436	78.497971	kacheguda	17.394590	78.495175	Women's Store
8	Bagh Lingampally	17.397436	78.497971	Mehfil Biryani Darbar Family Restaurant	17.398863	78.493760	Diner
9	Balkampet	17.446923	78.450451	Greenland Restaurant	17.443589	78.449170	Indian Restaurant