
# CAPSTONE 2020

MAY 1

**Location clustering based on hospital density**

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# Introduction:

Humans have many cravings and they will fight for all of them. However, we cannot create a quandary by bringing life on one head and other things on the other hand. Hear most people will pick life over any other thing out there. That brings us no surprise, after all we are living organisms.

Even though we are willing to do anything in order to save our life, unreachability of hospitals is the paramount among all for loosing life in the first place. Consider, there is a accident almost 80% of the time the person who got involved in the accident can sustain if he gets the appropriate treatment at appropriate time.

This project is about analyzing various neighborhoods in Hyderabad, India. As a result, we get a detail idea about various neighborhoods opening doors for building a new hospital.

# Business Problem:

We will never run out of investors on earth. Since the inception of the modern medical structure and the fear people having on their lives. Most people are considering hospitals as the primary sources to invest.

This project is about analyzing and clustering various locations in Hyderabad, India, which is a cosmopolitan city. Since it is a cosmopolitan city a lot of investors are willing to invest in this land to find out quests. Finally, after completing this project we will be classifying the locations with the density of hospitals. If somebody want to start a new hospital, they can use this analysis to start one at places where the density is very less. As a result, they will be making huge money.

# Beneficiaries:

Broadly there are two groups of beneficiaries with this project.

1. Investors
2. General Public.

As we already discussed in the target audience investors are the direct people who are going to get benefit from the analysis.

However, if people are investing in building hospitals in the places where the density is less the people living in those places can access hospitals easily, as a result, their standards of living will get improve. That is a real win-win situation.

# Data:

## REQUIREMENT:

In order to perform the analysis, we need neighborhood data of Hyderabad, India. Precisely we need the following four columns:

1. Neighborhood
2. Latitude
3. Longitude
4. Hospitals count

## STEPS:

1. Using the beautifulsoup library scrape the Wikipedia site where the neighborhoods data of Hyderabad, India, is available. Then cast it into a dataframe.

2. Using geolocator package get the location data then append those latitudes and longitudes to the dataframe.

3. Using foursquare get the venues belong to the medical category with a killometer radius.

4. Finally count the hospitals in each location and add this as a column to the dataframe.

As a result of the above steps, we get dataset containing neighborhoods, latitudes, longitudes, and number of hospitals.

# END