A. Introduction

A.1. Description & Discussion of the Background

Hyderabad is one of the most populous cities in India. Most of the working people in Hyderabad rely on several restaurants and fast food centers every day. Establishing a new fast food centre is one of the highly profitable businesses in this city. Our project mainly aims to help an owner in this city to suggest a new place for opening a food centre so that the business shall be highly profitable. For this we need to cluster several areas in this city and find out the most common places in that particular area. Finally we analyse all the clusters and suggest an area where the fast food centre is less common.

A.2. Data Description

For segmentation and clustering we have taken the data from https://en.wikipedia.org/wiki/List_of_neighbourhoods_in_Hyderabad. I have cleaned the data and using beautiful soup package I have converted all the needed data into a data frame namely df_Hyderabad. I have found the geographical coordinates using geopy.geocoders. I have created the map using the geographical coordinates. I have used folium library to visualize the geographical details of hyderabad.

B. Methodology

Using Four-square API , I have found the most common venues in Hyderabad using client id and client secret. The venue data frame also includes category of the venue,their geographical coordinates and neighbourhood details. using one-hot-encoding I have grouped the venues into a data frame namely df_venue. Finally I have created a data frame with neighbourhood name and ten most common places in that neighbourhood. using Kmeans algorithm I have created 5 clusters and labelled them from 0 to 5.Finally I have created a map to visualize all the clusters.

C. Analysis

By analysing all the clusters,we can find the area where the fast food centre is the least common place and suggest that area to owner who wants to open   a new food centre.