

Capstone Project

Introduction

--Background:

Nowadays, choosing optimal locations while opening commercial sites lays a critical role of whether the business would success. Stakeholders are trying to find the best location in the city to locate their businesses in order to attract more targeted consumers and to gain more revenue. Shanghai is one of the four municipalities in China, and it's the second most populous urban area in the world. Because Shanghai is a global center for finance, more and more stakeholders are attracted to expanding their businesses in Shanghai. However, in order to make sure the location of a commercial site won't have negative impact on growth of revenue, it's critical to optimize a location that attracts the most customers and has the best opportunity of growth.

--Business Understanding:

This project will try to find an optimal location (district) to open a shopping mall in Shanghai, China. Since there are so many shopping malls, detecting locations that are not already crowded but still attractive is the main task here. By analyzing data and visualizing maps, I will come up with two to three promising district areas based on the criteria. After filtering down to the promising district areas, I will perform further analysis in details of these areas, and select the best neighborhood to open a shopping mall. The opportunities would be compared with existing neighborhood. The results would benefit the stakeholders who seek opportunity to open a shopping mall in Shanghai.

Data

Based on above descriptions, the data will be used are:

- Geographical coordinates of districts in Shanghai
Features: Latitude, Longitude, District Name)
- Population and density in each district
Features: Area, Population, Density in each district
- Number of shopping malls and their locations in each district
Features: VenueName, VenueLatitude, VenueLongitude, VenueCategory

In order to obtain the data, following data sources will be needed:

- Wikipedia category website
https://en.wikipedia.org/wiki/Category:Districts_of_Shanghai
- Beautiful soup python library
- Geolocator library
- Foursquare API