

Analyzing Markets in Southern China

Introduction

In this article, we examine the markets of Southern China with two results: a list of the most populated cities of China that are in greatest need of restaurants; and a list of clusters of Chinese cities where cities that offer similar venues are clustered together. We accomplish this using the data that is available and by using common techniques of data analysis offered by Python and its associated libraries.

Data

The source of data is the Foursquare API and <https://simplemaps.com/data/world-cities> dataset of cities in the world.

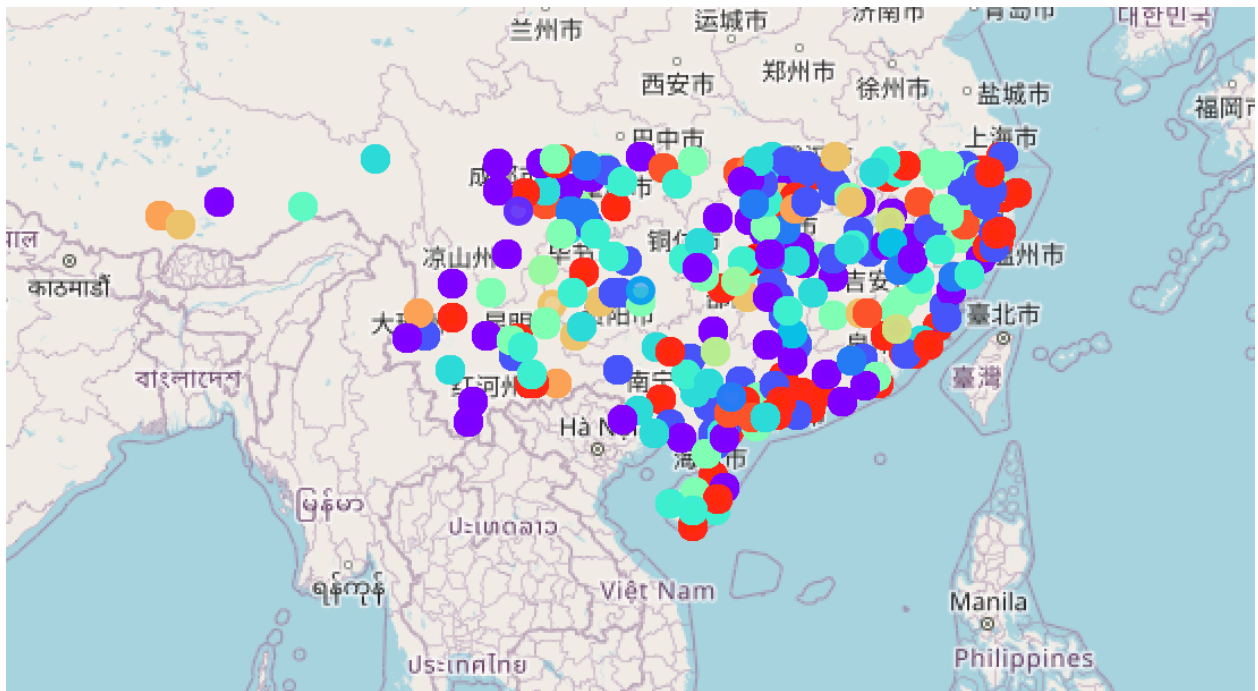
Methodology

1. We obtain the data from <https://simplemaps.com/data/world-cities> and clean the dataset. We prepare the data, so that it will be most useful to us.
2. We search for venues for each of the cities listed in the dataset.
3. We analyze the venue data based on the category of each venue.
4. We find the cities with the fewest restaurants and order them by population in descending order.
5. We cluster the cities using a k means algorithm where the proportion of each venue category in the city as a feature.

Results

The cities most in need of restaurants are Jianguang, Lianyuan, Zhongxiang, Daye, Leping, Macheng, Miluo Chengguanzhen, Guixi, Fu'an, and Dangyang.

We clustered the cities of Southern China into the following groups as displayed by the following map.



Discussion

Based on these results we see have ten cities with high populations that have low densities of restaurants. These are cities in which a restaurant would thrive. Upon opening restaurants, it will greatly benefit them to register with companies that provide location based APIs for venue searching including Foursquare and Google Places.

For each of those cities, we found that the most common venues were housing developments, hotels, assisted living, government buildings, train stations, bus stations, high schools, historic sites, clothing stores, hospitals, history museums, colleges, factories, general entertainment, parks, karaoke bars, clothing stores, hotels, museums, comedy clubs, historic sites, and soccer stadiums. These attract people which could be customers at a restaurant.

Conclusion

The following cities would support either single restaurants or restaurant franchises: Jianguang, Lianyuan, Zhongxiang, Day, Leping, Macheng, Miluo Chengguanzhen, Guixi, Fu'an, and Dangyang.