

Capstone Project – Final Report

Introduction and Business Problem

- June wants to open a new burger joint in Foshan, China.
- Due to Foshan's high diversity with many districts, June decided to use new learned skills to find the best location for a new burger joint.
- Foshan has 5 different Districts.
- We need to choose a district which has large amount of customers and low amount of competition

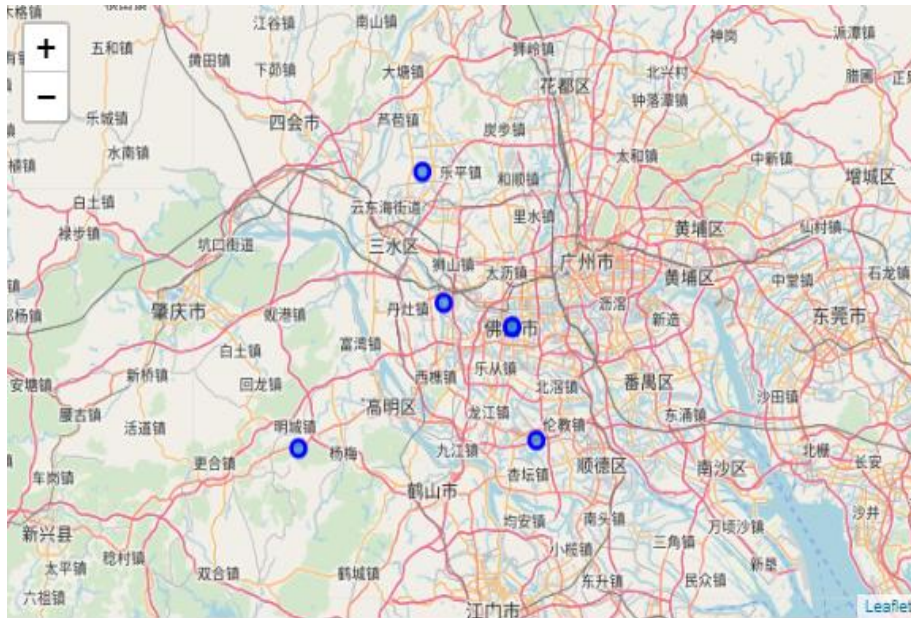
Data

- To help June in her search we will need to access following data
- The district of Foshan, China from Wikipedia
- <https://en.wikipedia.org/wiki/Foshan>
- The coordinates of these districts of Foshan from Open Street Map APIs
- From Foursquare we will need following venues data:
 - the burger joint venues of the districts
 - the office venues of the districts
 - the high schools venues of the districts
 - the university venue of the districts
- We will then leverage the data in order to determine which locality is the most appropriate in order to locate the burger joint

Methodology

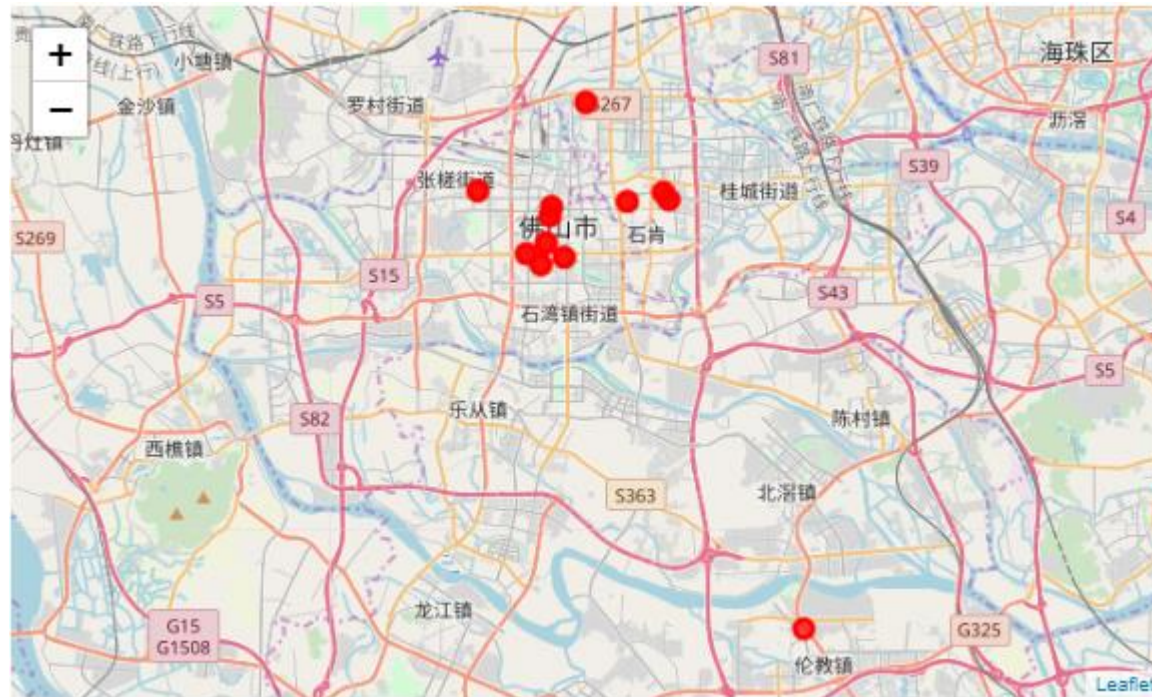
- For each locality, all office, school, universities and burger joints venues data have been collected from Foursquare
- Then for each locality, the sums of the office, school, university and burger joints were computed
- For each of this 4 categories, a weight (or penalty) has been defined according to what June considers the most important
- Burger joints have been weighted with -1, since June wants to avoid concurrence
- School have been weighted with 1, since students are good customers.
- Universities have been weighted with 2, since students are good customers with more money
- Offices have been weighted with 2, since employees are even better consumers.
- Note that the weights can be modified according to the importance of each category
- Lastly, a score was computed for each locality as the weighted sum of the number of venues in each of the 4 categories (school, university, office, burger joints)

Districts of Foshan China



	Division	Latitude	Longitude
0	Foshan	23.024769	113.114633
1	Chancheng	23.024769	113.114633
2	Nanhai	23.060781	112.982365
3	Shunde	22.844685	113.162086
4	Sanshui	23.268599	112.941953
5	Gaoming	22.832154	112.703403

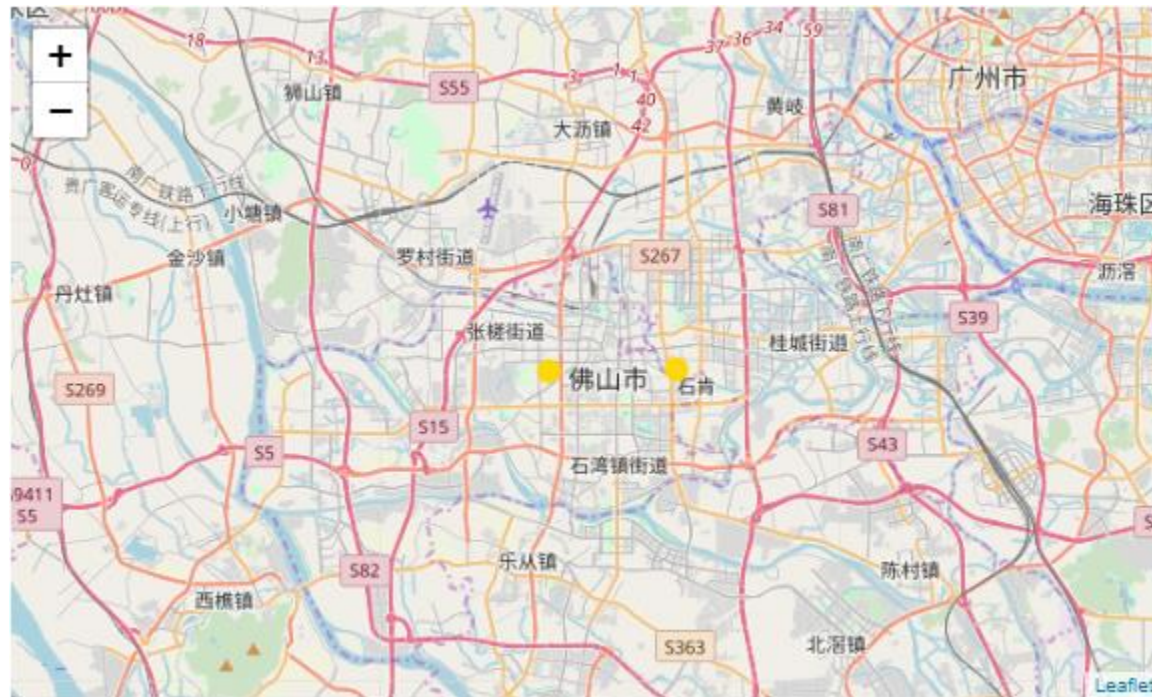
Burger Joints in Foshan



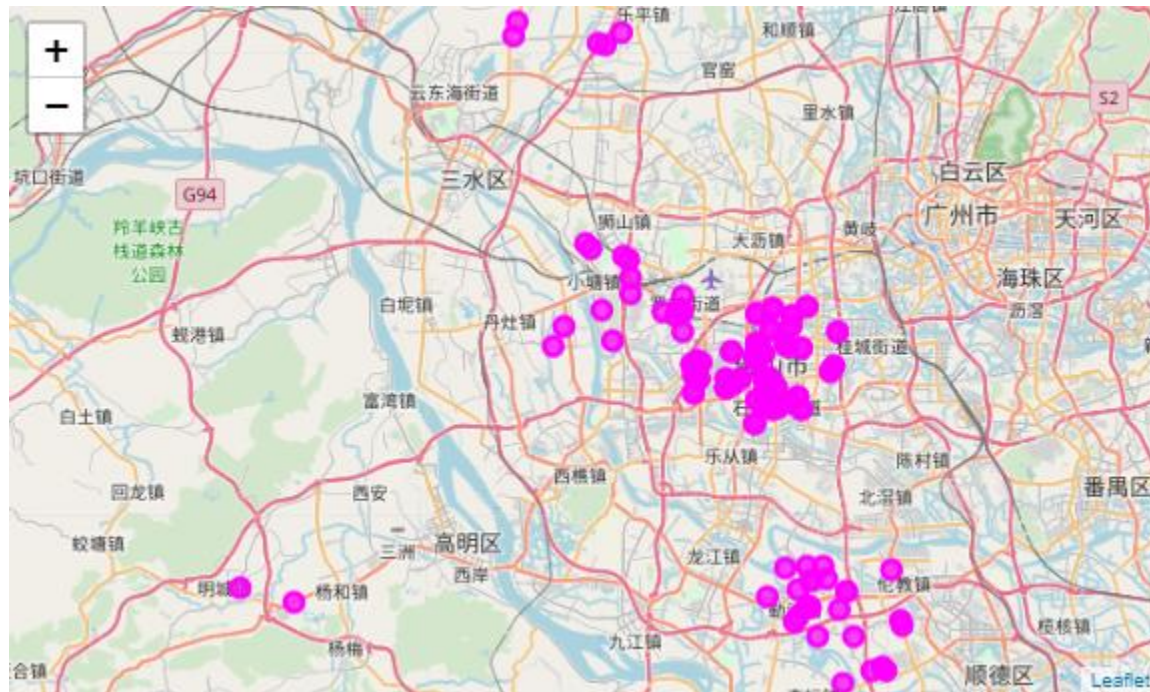
High Schools in Foshan



Universities in Foshan



Office in Foshan

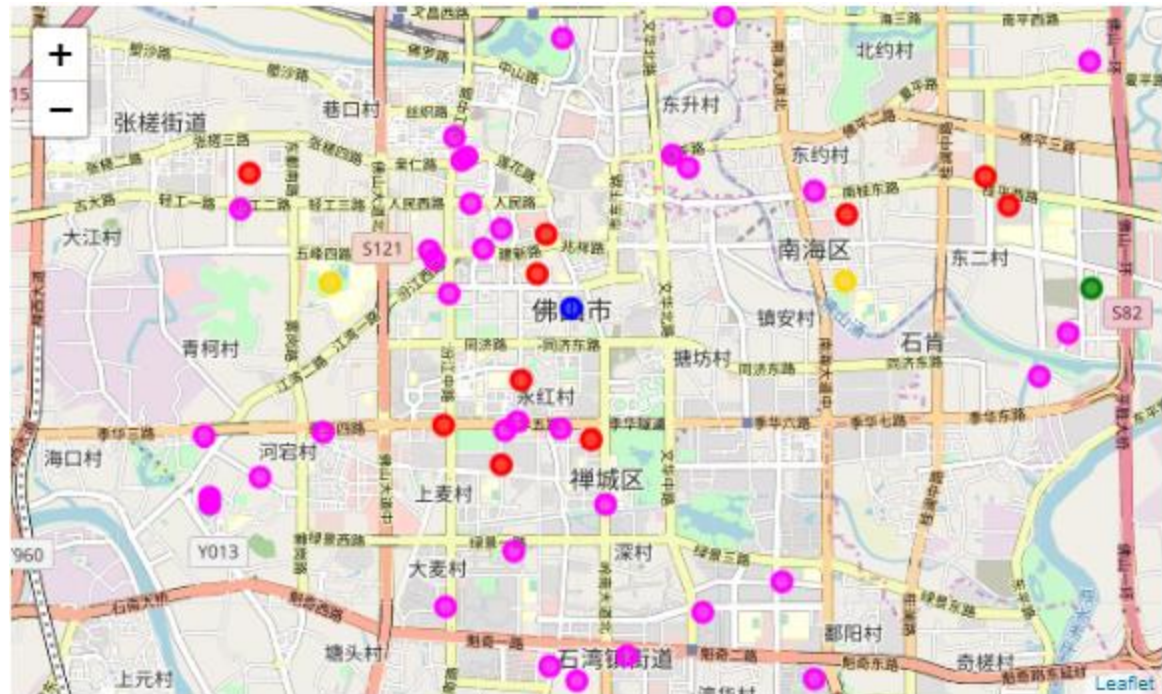


Results

The district with the best score is Foshan and Chancheng with 90.0, being the best options. These options maximize the number of potential customers from offices and universities and at the same time have not too large competence.

Best Place for the burger joint in Foshan is Foshan District

	Division	Score
0	Foshan	90.0
1	Chancheng	90.0
3	Shunde	53.0
2	Nanhai	32.0
4	Sanshui	15.5
5	Gaoming	4.0



Recommendation

- The following analysis can be improved with following extensions:
- Consider more categories. For example like “Night Life” which is also a good source for customers. But also like “Restaurant”, which even if not burger joints may be some concurrence if too many.
- In the district itself, it can also be computed the distance between all the venues in order to find a place with the most number of potential customers.
- Using smaller geographical areas like Neighborhoods could improve the accuracy for the scores.