

The Battle of Neighborhoods (week2)

Hotpot Restaurant in Singapore

Background: Now COVID19 virus is spreading all over the world, people need to order home delivery food and are not allowed to eat in the restaurant. In Singapore, many people are from China and the most popular food for Chinese people is hotpot. More and more hotpot restaurant coming to Singapore in last few years because of high demand. Normally people are only familiar with restaurants near to their neighborhood and may not know all the restaurants.

Project Objectives:

Now everyone is home quarantine and gets bored. But we can try new food when work from home. However people do not have all the data. This project is to analysis hotpot restaurant data in Singapore to cover the following topics:

- Hotpot restaurants quantity and location in this island.
- Clustering of the restaurants.
- The region that has the most hotpot restaurants.
- Trending venues. (There is no trending venues for now due to this special virus time.)
- Rating for all restaurants. People can refer to the rating summary and place order to try something new accordingly during this pandemic period.

Picture1: hotpot cuisine



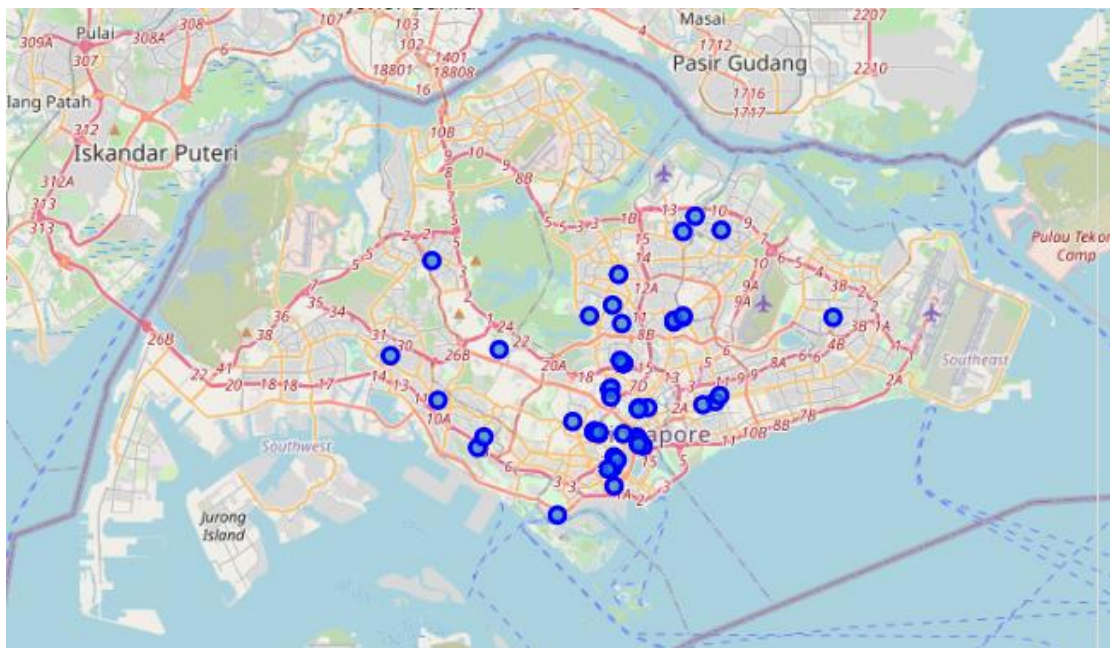
Data and Methodology for this project:

- The data will be from foursquare only. There is no ready data. I want to choose Singapore because I live here and I am also want to know more about this beautiful country.
- Use folium library to plot all the restaurant location.
- Use K-means clustering to analysis clustering. 4 groups are generated.
- Histogram plot to show the different distribution of different regions.
- Explore the most popular restaurant “Hai Di Lao”. Get rating from foursquare.

Result Section:

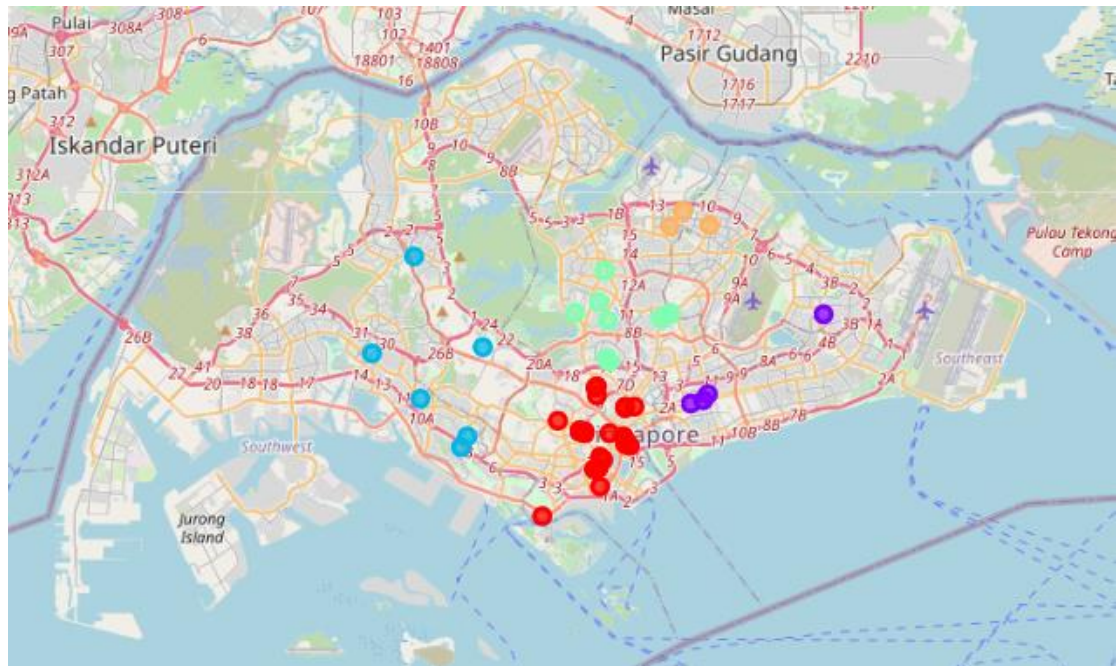
There are 50 hotspot restaurants found using foursquare data. But this should not be accurate because some more are actually hotspot restaurants but the name information does not indicate they are hotspot. So the result is not ideal to be honest.

Picture2: 50 hotspot restaurant location



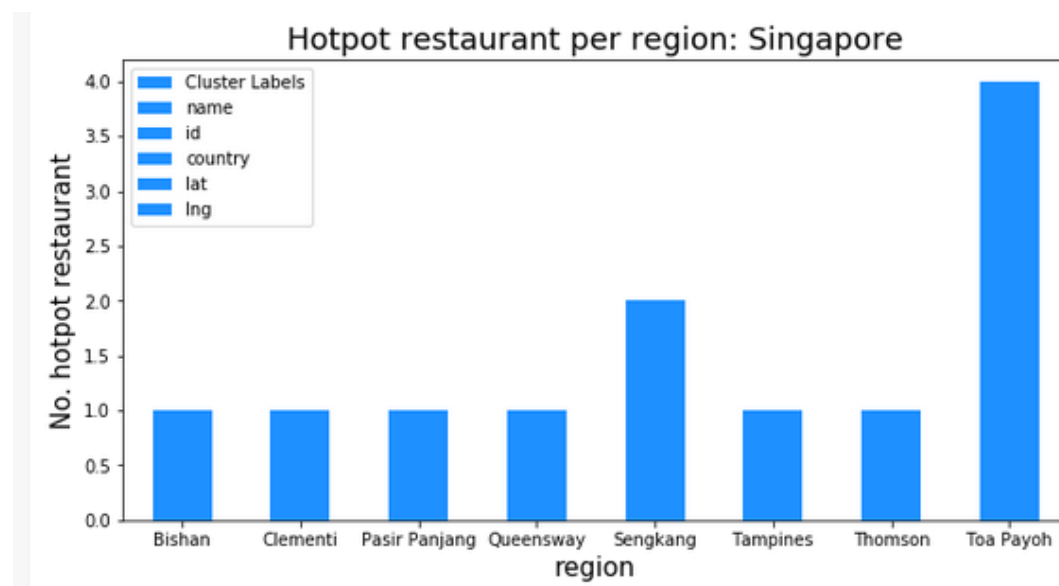
There are 4 clusters. We can see that the biggest cluster is located in downtown area. Singapore is a tourism city, tourists are the biggest consumer. It is not a surprise to see the biggest cluster is located in downtown area, even though hotspot is a special cuisine. After virus pandemic pass, we believe downtown will still be crowded with Chinese people.

Picture3: Four Clusters of hotspot restaurant



We also analysis the region that has the most hotspot restaurant. By this, we can make a guess which region has most Chinese living there. Below bar chart shows that Toa Payoh is the hot spot of hotspot restaurant.

Picture4: Region distribution of hotspot restaurant



Below shows an example of rating list. Many restaurants do not has rating data so the

result only shows 0. We have to filter out these NA data.

Picture5: Row data with Rating

	Name	ID	address	Likes	Rating	Tips
0	海底捞Hai Di Lao Hotpot	5a7af18ce2d4aa5fba54294	[#06-01/02 Royal Square At Novena (103 Irrawad...	26	7.4	10
1	Haidilao Hotpot	5ad883bcb77c7759445a6d30	[Seletar Mall (33 Sengkang West Ave), 797653, ...	9	8.4	0
2	0	0	[450 Lorong 6 Toa Payoh, 319394, Singapore]	0	0.0	0
3	0	0	[Century Square (2 Tampines Central 5), 529509...	0	0.0	0
4	0	0	[209945, Singapore]	0	0.0	0
5	0	0	[#02-54 Bugis Junction (200 Victoria St), 1880...	0	0.0	0
6	DANRO Japanese Hotpot Place by MOF	50ceb8fae4b05a3ba6c8b41d	[#02-04/06 (Serangoon NEX (23 Serangoon Centra...	6	4.9	19
7	Chuan Wang Fu Spicy Hotpot 川王府火锅	4b275160f964a520db8524e3	[9 Teck Chye Terrace (Junction of Boundary Roa...	1	5.0	7
8	0	0	[133 New Bridge Road #01-44 Chinatown Point, 0...	0	0.0	0
9	0	0	[244R Upper Thomson Road, 574369, Singapore]	0	0.0	0
10	0	0	[Kopitiam Square (10 Sengkang Sq.), 544829, Si...	0	0.0	0
11	0	0	[119082, Singapore]	0	0.0	0
12	Seoul Garden HotPot	5173969a498e64648c58b1b9	[IMM Building, Singapore]	5	5.4	7
13	0	0	[#B1-16 Chinatown Point (133 New Bridge Road),...	0	0.0	0
14	0	0	[Suntec City Mall #B1-061 (3 Temasek Blvd.), 0...	0	0.0	0
15	0	0	[S11 Ang Mo Kio, Singapore]	0	0.0	0
16	Seoul Garden HotPot	4d8497847e8ef04d6fd80dbe	[#02-03/04, HarbourFront Centre (1 Maritime Sq...	16	5.3	27
17	0	0	[737 Geylang Road, 389648, Singapore]	0	0.0	0
18	0	0	[Lor13 (Geylang), Singapore]	0	0.0	0
19	0	0	[282 Bishan Street 22, 570282, Singapore]	0	0.0	0
20	0	0	[310470, Singapore]	0	0.0	0
21	0	0	[319394, Singapore]	0	0.0	0
22	Shabu Tontei Japanese Hotpot & Pork	4cf87dd9ce1da1cda662c8e1	[#B1-79, NEX, 23 Serangoon Central, 556083, Si...	11	5.8	17
23	0	0	[Bishan S11 Food Court (#03, 504 Bishan Street...	0	0.0	0
24	0	0	[190 Lorong 6 Toa Payoh, 310190, Singapore]	0	0.0	0

Below table are filtered data to show top ranking restaurants. The top three are all “Hai Di Lao”. Hai Di Lao is a globally brand and is a public company. They have the best service and fresh food. Whatever Chinese people or people from other countries, they all like it and not skimp on their compliments. I hope this pandemic will pass quickly so food industry can survive.

Picture6: Processed Rating table

	Name	ID	address	Likes	Rating	Tips
1	Haidilao Hotpot	5ad883bcb77c7759445a6d30	[Seletar Mall (33 Sengkang West Ave), 797653, ...	9	8.4	0
38	Hai Di Lao Hot Pot	50ae28fde4b0062752d48b38	[#02-04 Clarke Quay (3D River Valley Road), 17...	311	7.7	105
0	海底捞Hai Di Lao Hotpot	5a7af18ce2d4aa5fba54294	[#06-01/02 Royal Square At Novena (103 Irrawad...	26	7.4	10
34	Fragrant Hot Pot 飘香麻辣香锅	4e0b04c745ddb226bd8a9ba6	[313 @ Somerset, 313 Orchard Rd, 238895, Singa...	10	7.2	4
32	The Magic Of ChongQing Hot Pot 重庆火锅 (The Magi...	4b827a7ef964a520a1d430e3	[#04-06/07, Tanglin Shopping Centre (19 Tangli...	18	6.1	12
22	Shabu Tontei Japanese Hotpot & Pork	4cf87dd9ce1da1cda662c8e1	[#B1-79, NEX, 23 Serangoon Central, 556083, Si...	11	5.8	17
27	Chicken Hot Pot	4c42bf2bd691c9b6adda8e0a	[#04-02A/B/C, Square 2 (10 Sinaran Dr), 307506...	6	5.8	10
12	Seoul Garden HotPot	5173969a498e64648c58b1b9	[IMM Building, Singapore]	5	5.4	7
16	Seoul Garden HotPot	4d8497847e8ef04d6fd80dbe	[#02-03/04, HarbourFront Centre (1 Maritime Sq...	16	5.3	27
7	Chuan Wang Fu Spicy Hotpot 川王府火锅	4b275160f964a520db8524e3	[9 Teck Chye Terrace (Junction of Boundary Roa...	1	5.0	7
6	DANRO Japanese Hotpot Place by MOF	50ceb8fae4b05a3ba6c8b41d	[#02-04/06 (Serangoon NEX (23 Serangoon Centra...	6	4.9	19

Discussion Section and Conclusion:

The results in this report are not ideal because not all restaurants have rating data, and not all the name indicate hotpot so some hotpot restaurants are missed out.

The data shows the most favorite restaurant is “Hai Di Lao 海底捞”. This as expected. Hai Di Lao has the best service and food. Before pandemic they have plan to open more restaurants. After the pandemic, the rating table may change because some restaurant won’t survive. Anyway, during work from home, Hai Di Lao is still a best choice to order for home delivery.