

The right spot for a bakery shop

Alfonso De los Reyes



Business problem

- Our client, a local chef would like to appoint a data science agency (the “Contractor”) with the necessary expertise to design and conduct analysis to find the perfect location for a new **bakery shop** to be opened in **Singapore** in 6 months.
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- The bakery shop shouldn't be a typical bakery like the currently existent chains in the country, the place should offer a new experience in more quiet areas in which consumers appreciate bakery and coffee and therefore ambience is important. The client is still undecided about the positioning of the place in terms of a bakery shop or a café instead.
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- Context: Singapore is dense in terms of food offering; few cities can offer the amount of variety of restaurants packed in so small spaces. According to the local authorities, there are around 8000 food service outlets in the country and therefore having a clear idea of the marketing mix is key to be successful.



Objective

- **Objective:**

Understand which neighborhoods or areas are more appropriate to open a shop

- **Area:**

The entire Singapore

- **Restrictions / options**

Measure

- *Could be café or a bakery shop*

Frequency of bakery shops and cafes

- *It should be accessible*

Near a metro station

- *It should be a good area*

parks / gardens as measure

- *Avoid high rental*

Avoid "business" areas like downtown

Data sources

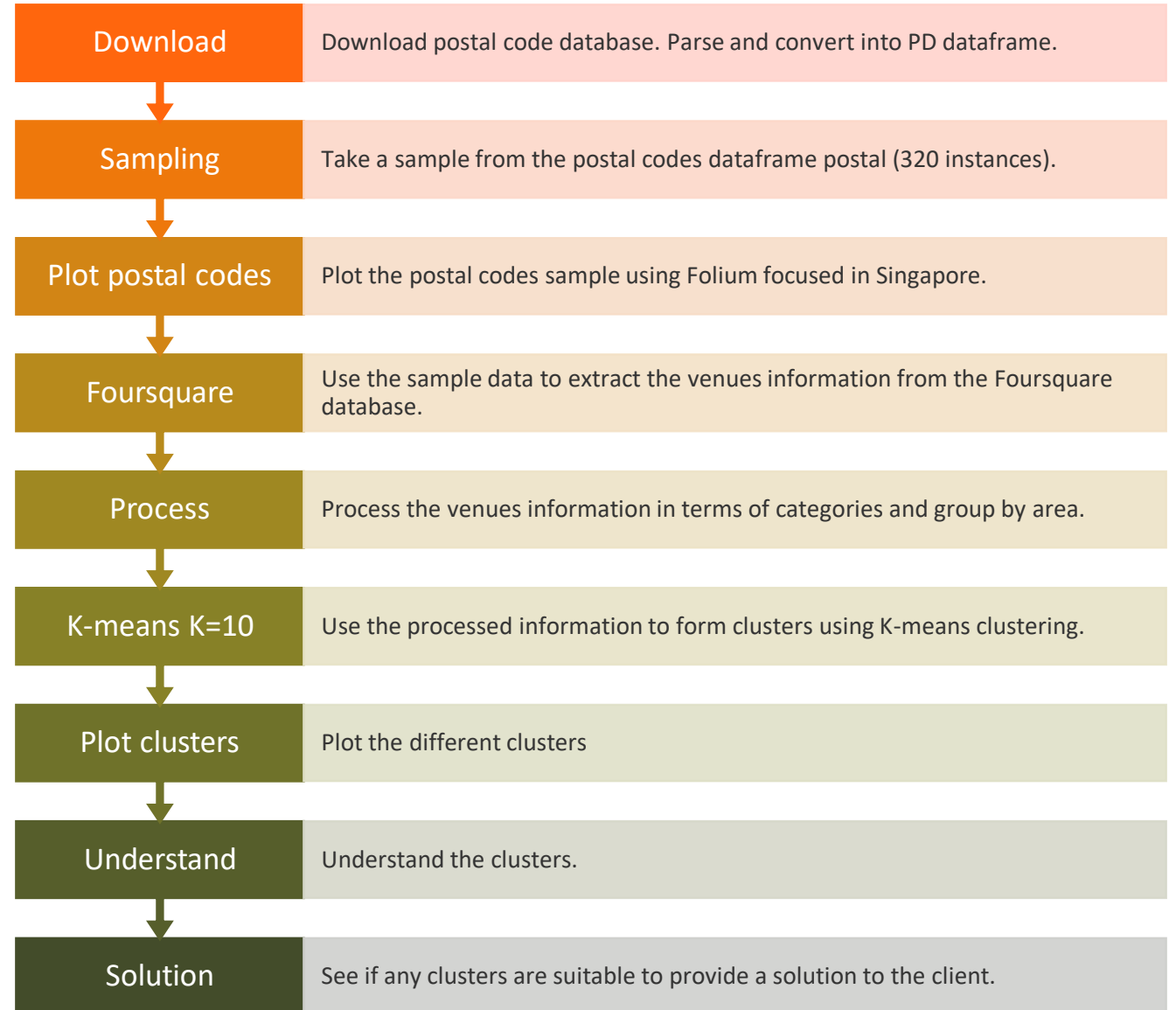
- **Postal codes from Singapore:**

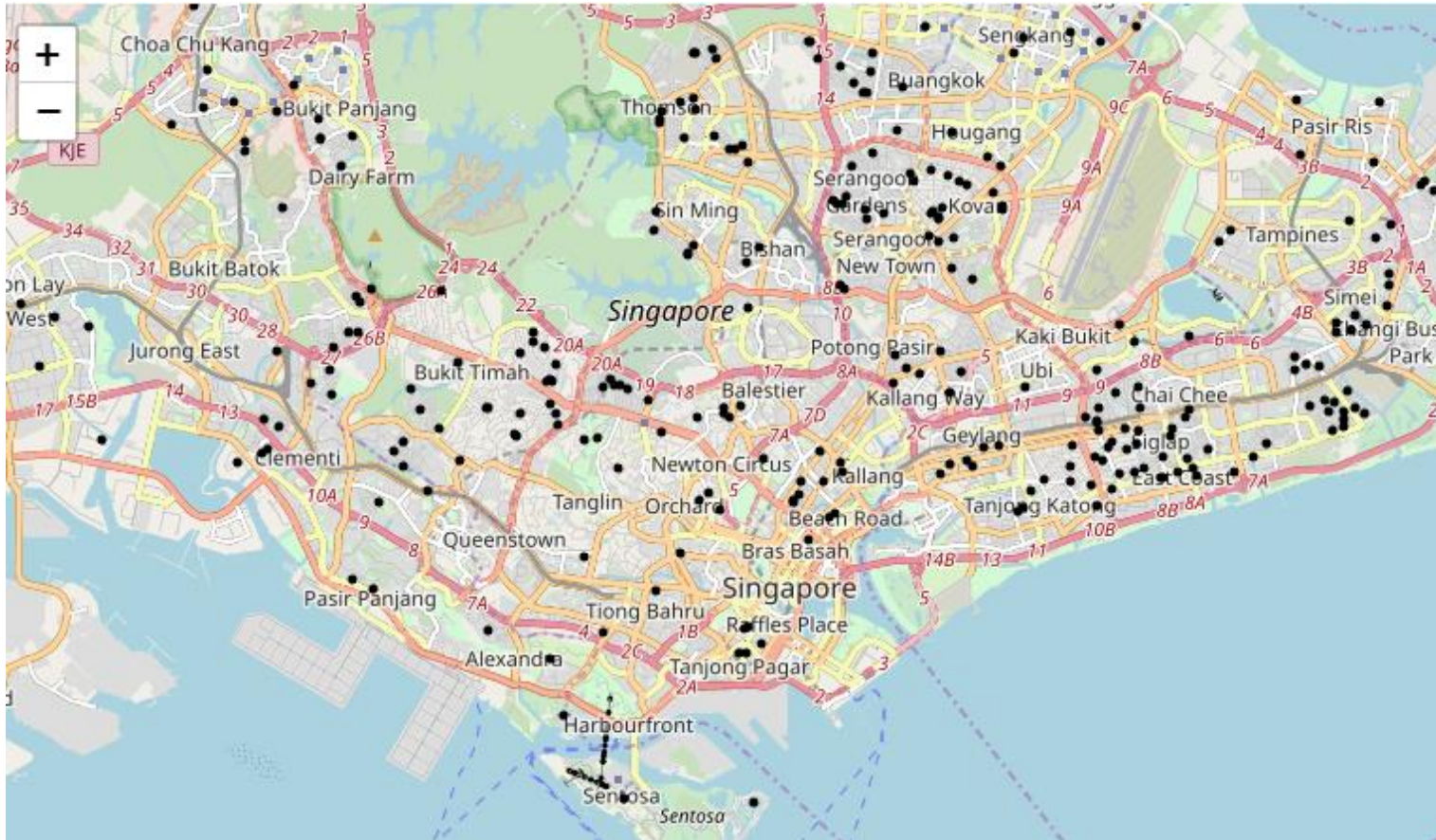
<http://download.geonames.org/export/zip/>

The entire number of postal codes that exist in Singapore, beyond the district area code. The file contains 121154 total postal codes with longitude and latitude information.

- **Foursquare data of venues extracted using those postal codes.**
- For the sake of simplicity a random sample will be taken from the total postal codes.

Step by Step approach / methodology





Singapore before the clustering

Observations: The black dots represents the 320 postal codes plotted. Why I choose to plot 320 points instead of 28 districts, because 28 districts is simply too small to cluster the data.

Clusters results

Cluster 0, Is located in different areas of the city and is mostly composed of mixed Asian restaurants and coffee shops.



Cluster 1, Is located in traditional areas of the city and is mostly composed of Chinese restaurants and Noodle houses.



Cluster 2, Concentrated in the Bukit Timah area, a residential area composed of cafes, bakery shops, gardens, metro station and shopping mall.



Cluster 3, Concentrated in the financial district area, composed by hotels, mixed restaurants and cafes.



Cluster 4, Concentrated along the Geylang area is composed of food court and fast food mostly.



Cluster 5, Concentrated in little India mostly consists of Indian restaurants, cafes and hotels mostly.



Cluster 6, All around the city, is composed by supermarkets, food, beaches, parks, gun ranges, fast food, bus stops, etc.



Cluster 7, Concentrated near downtown area, composed by hotels, boutiques and Japanese restaurants mostly.



Cluster 8, Located in a traditional area of Singapore, is composed of coffee shops, cafes and Asian restaurants.

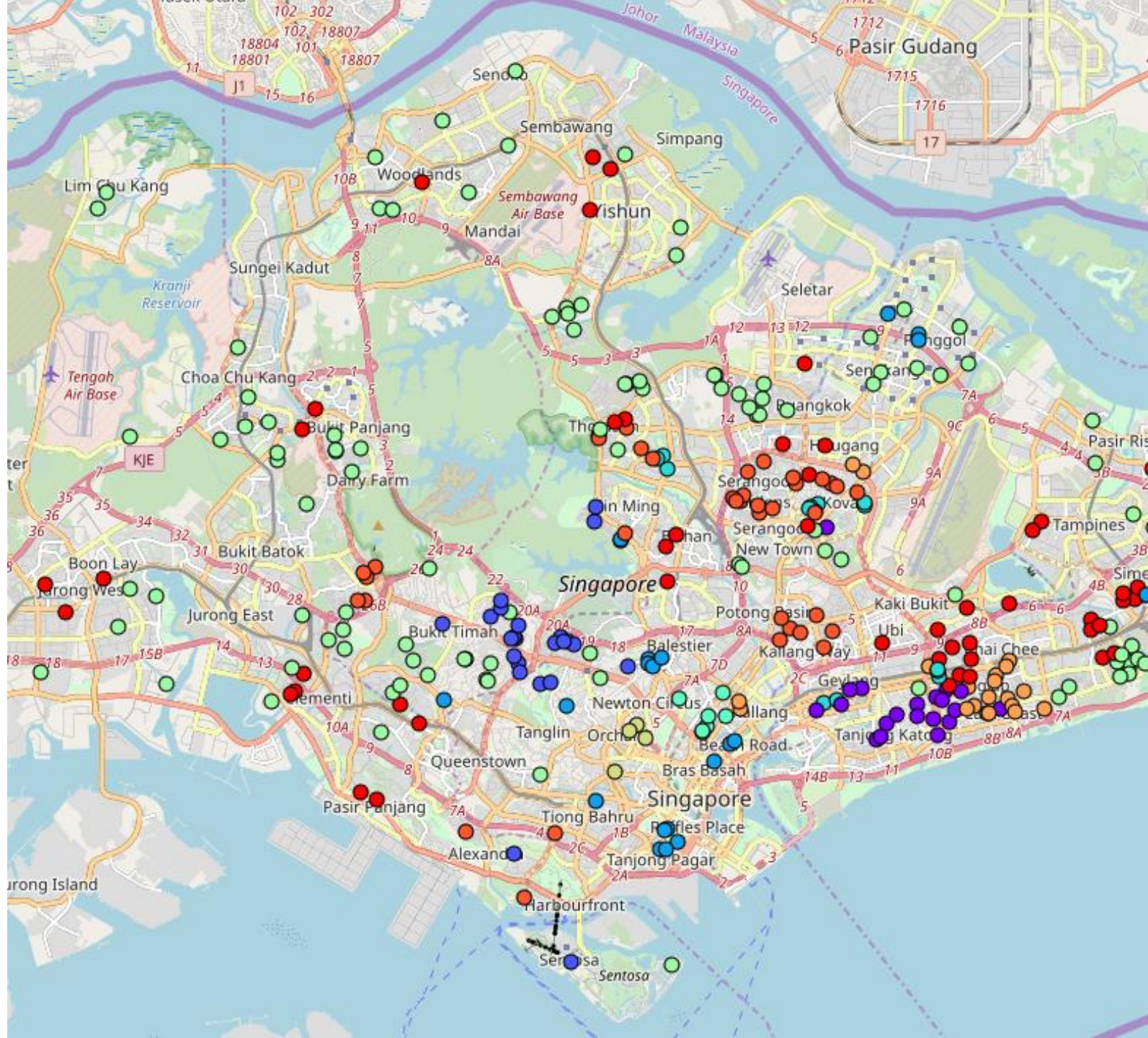


Cluster 9, Asian restaurants concentrated in the Serangoon area



Plotted results

Clearly differentiated clusters.



A closer look into cluster 2

Cluster 2: Bakeries and cafes

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1 tablemerged.loc[tablemerged['Cluster Labels'] == 2, tablemerged.columns[[0] + list(range(4, tablemerged.shape[1]))]]
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	area	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
7	Ash Grove	Bakery	Italian Restaurant	Food Court	Pizza Place	Seafood Restaurant
9	Barker Road	Café	Japanese Restaurant	Chinese Restaurant	Bus Station	Italian Restaurant
44	Cluny Park	Café	Garden	Bakery	Park	French Restaurant
45	Cluny Road	Café	Garden	Bakery	Park	Bus Stop
50	Coronation Road	Café	Bakery	Shopping Mall	Noodle House	Thai Restaurant
53	Cypress Avenue	Bus Station	Food Court	Seafood Restaurant	Indian Restaurant	Bakery
73	Farrer Road	Café	Garden	Bakery	French Restaurant	Shopping Mall
81	Gardenia Road	Café	Thai Restaurant	Ice Cream Shop	Chinese Restaurant	Spa
91	Greenwood Avenue	Italian Restaurant	Bakery	Pool	Gym	Chinese Restaurant
92	Greenwood Avenue	Italian Restaurant	Bakery	Pool	Gym	Chinese Restaurant

Recomendations

Final conclusions

- According to our objective **[understand which neighborhoods or areas are more appropriate to open a shop]**. Now we have a very good idea of how the different venues are distributed in the city with 2 or 3 main areas concentrating a larger number of bakery shops, cafes and similar.
- Opening a bakery/café in Cluster 2 will offer a higher scale experience with a more modern experience, with younger affluent customers willing to pay more, furthermore the Cluster 2 area / Bukit Timah has some of the densest clusters of luxury condominiums and therefore potential to continue growing and is close to MRT station and is also composed of parks and leisure areas. On the other hand, cluster 8 also has plenty of coffee shops, however it is located in a much more traditional area and opening there would be an error. This area is also limited in terms of disposable income.

