



Battle of the Neighborhood

- *Adelaide*

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Overview

Our client is **looking to open a new restaurant in Sydney**, but she is not sure about the best location for her new venue and needs input for making the decision. Sydney, also known as the “Emerald city”, a coastal metropolis whose five million residents make it the largest city in Australia — is famous for many things. A sophisticated food and drink scene befitting a city of this magnitude. While we are setting up a new restaurant business in Sydney, the venue's location must be carefully picked in order to maximize the profit.

According to an analysis by **Small Business**, the 5 factors for choosing a new restaurant location are: Population base, Parking, Visibility, Affordability and Safety. In this projects, we dive into population base, and Visibility mainly.





Target audience

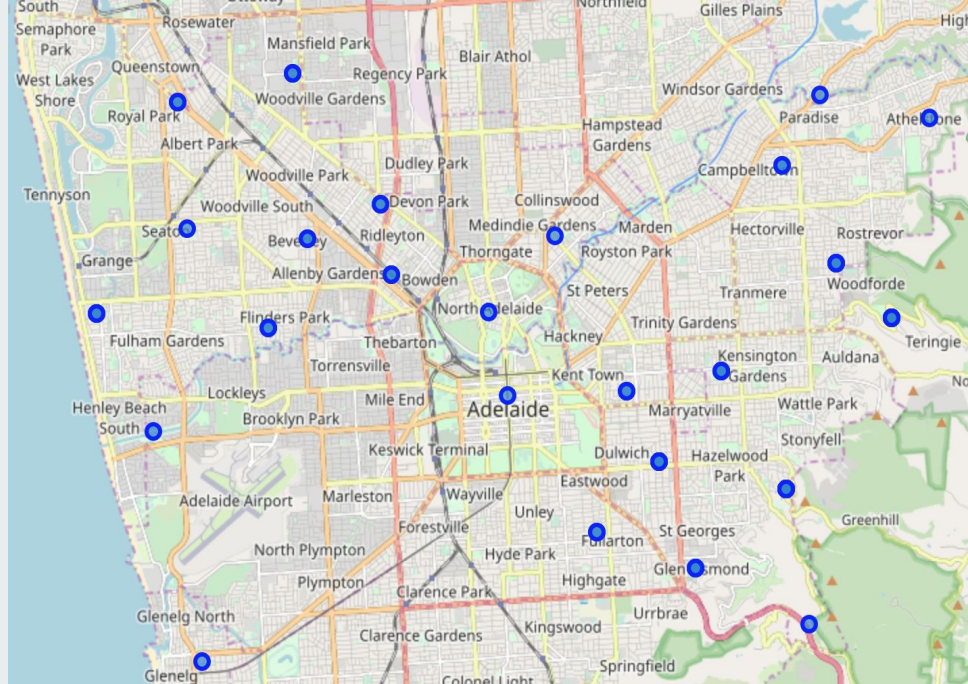
This project is tailored to serve clients who are opening their first full-service restaurant. Or, for seasoned restaurateurs, they may have a successful location and looking to open up a second one.

- 01 | load the data
- 02 | Preprocessing the data
- 03 | Adding the latitude and longitude
- 04 | Explore the neighborhoods in Adelaide
- 05 | Analysing and clustering the neighborhoods



Data

- ❖ List of Adelaide suburbs:
[https://www.costlessquotes.com.au/postcode/tool/postcode list NSW.php](https://www.costlessquotes.com.au/postcode/tool/postcode%20list%20NSW.php)
- ❖ Google Maps API reverse geocoding: get the latitude and longitude info
- ❖ Foursquare API: number of restaurants and their type and location in each neighborhood



	Neighborhood	PostCode	Population
0	Adelaide	5000	15115
1	North Adelaide	5006	6950
2	Auldana	5072	625
3	Baumont	5066	2557
4	Beulah Park	5067	1602



Methodology

01 Adding the latitude and longitude



	Neighborhood	PostCode	Population	latitude	longitude
0	Adelaide	5000	15115	-34.925650	138.599907
1	North Adelaide	5006	6950	-34.909165	138.594803
2	Auldana	5072	625	-34.910540	138.697384
3	Beaumont	5066	2557	-34.943867	138.670460
4	Beulah Park	5067	1602	-34.924875	138.630063



Methodology

02 Explore the neighborhoods in Adelaide using geocoder and Foursquare API to get a list of Adelaide venues and map

```
address = 'Adelaide, South Australia'

geolocator = Nominatim(user_agent="Adelaide_SA")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print('The geograpical coordinates of Adelaide, NSW are {}, {}'.format(latitude, longitude))
```

The geograpical coordinates of Adelaide, NSW are -34.9281805, 138.5999312.

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Adelaide	-34.925650	138.599907	Proof	-34.925730	138.598453	Wine Bar
Adelaide	-34.925650	138.599907	Pizza E Mozzarella Bar	-34.925683	138.600868	Pizza Place
Adelaide	-34.925650	138.599907	Blefari Caffè & Cucina	-34.927201	138.600413	Café



Methodology

03 Analyse each neighborhood

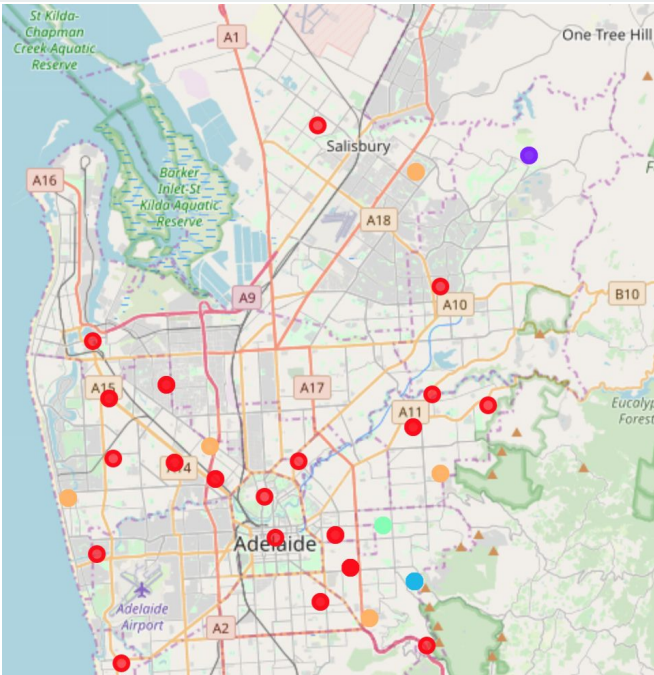
- ❖ One-hot encoding
- ❖ Group_by 'Neighborhood'
- ❖ List and sort by top 10 venues

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Adelaide	Café	Bar	Coffee Shop	Hotel	Sculpture Garden	Wine Bar	Japanese Restaurant	Italian Restaurant	Asian Restaurant	Vietnamese Restaurant
Albert Park	IT Services	Vietnamese Restaurant	Grocery Store	Malay Restaurant	Fast Food Restaurant	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega	Department Store
Allenby Gardens	Pet Store	Italian Restaurant	Asian Restaurant	Café	Wine Bar	Farmers Market	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega

Methodology

04 Clustering the neighborhoods in Adelaide using K-means

- ❖ Generate 5 clusters
- ❖ Combine the clusters dataframe with the geolocation dataframe
- ❖ Map the clusters using Folium



Neighborhood	PostCode	Population	latitude	longitude	Cluster_Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue
Adelaide	5000	15115	-34.925650	138.599907	0	Café	Bar	Coffee Shop	Hotel	Sculpture Garden	Wine Bar	Japanese Restaurant	Italian Restaurant
North Adelaide	5006	6950	-34.909165	138.594803	0	Pub	Burger Joint	Italian Restaurant	Thai Restaurant	Asian Restaurant	Café	Coffee Shop	Gym



Methodology

04 Dive into each cluster

1

Cluster 0:

Cafe, restaurants, bar and similar food industries.

2

Cluster 3:

Cafe, snack place, Wine bar, Farmers market and Comfort food restaurant.

3

Cluster 1:

Clothing store, wine bar, Fast Food restaurant and Deli.

4

Cluster 4:

Beer Garden, Fast Food Restaurant, Bus station, Motel, and so on.

Results

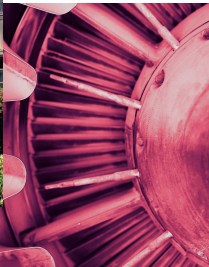
cluster 2 should be invested as it is filled with Scenic Lookout

5

Neighborhood	PostCode	Population	latitude	longitude	Cluster_Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue
Beaumont	5066	2557	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega
Burnside	5066	2930	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega
Erindale	5066	1186	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega
Hazelwood Park	5066	1874	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega
Stonyfell	5066	1326	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega
Waterfall Gully	5066	2522	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega
Wattle Park	5066	1830	-34.943867	138.67046	2	Scenic Lookout	Department Store	Wine Bar	Clothing Store	Coffee Shop	Comfort Food Restaurant	Convenience Store	Cupcake Shop	Deli / Bodega



n



1

Population Base

Adelaide and Golden Grove have the most populations. Investors should primarily consider opening their restaurants in these two suburbs.

Neighborhood Clustering

Investors should potentially consider choosing the neighborhoods to avoid fierce competitiveness. Based on our observation, Cluster2 could be the

ideal place to launch a restaurant business as it is primarily famous by the Scenic Lookout, hence will have enough customer base (i.e. tourists) to support the business in the long run.



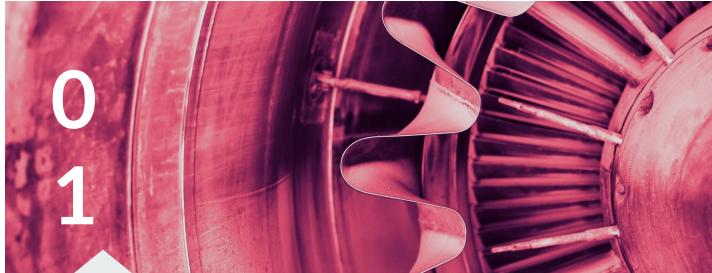
03

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Conclusion



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Based on our observation, Cluster2 could be the ideal place to launch a restaurant business, as it is primarily famous by its Scenic Lookout, hence will have enough customer base (i.e., tourists) to support the business in the long run.





Thank you.

