



IBM Data Science Capstone Project

Sydney at a glance



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1. Introduction

Sydney, Australia

Final project analyzing Sydney and its neighborhoods:

- What are the top venues in a radius of 500m
- What are the top 5 venues - school, restaurants, parks, gyms, coffee-shops, ect.

Will help determine which neighbourhood is best suited for your needs.

2. Data

Data Scraping

In order to perform the analysis, we need to source the data and import them in a dataframe.

```
   Neighbourhood Postal Code Borough Latitude Longitude
0    Haymarket    2000.0 SYDNEY STREETS  -33.880    151.205
1    Haymarket    2000.0 SYDNEY STREETS  -33.861    151.204
2    Haymarket    2000.0 SYDNEY STREETS  -33.861    151.207
3      Ultimo    2007.0 SYDNEY STREETS  -33.881    151.198
4  Chippendale    2008.0 SYDNEY STREETS  -33.886    151.199
..      ...      ...      ...      ...      ...
331   Warrawee    2074.0   GOSFORD  -33.732    151.130
332   Warrawee    2074.0   GOSFORD  -33.704    151.149
333   Warrawee    2074.0   GOSFORD  -33.753    151.111
334   Warrawee    2074.0   GOSFORD  -33.729    151.123
335  Normanhurst    2076.0   GOSFORD  -33.723    151.097

[336 rows x 5 columns]
```

3. Methodology

Foursquare API

We Import, display and analyze data thanks to the Foursquare API.

```
print('Your credentails:')  
print('CLIENT_ID: ' + CLIENT_ID)  
print('CLIENT_SECRET:' + CLIENT_SECRET)
```


4. Results

Top 200 venues that are within a radius of 500 meters

(7460, 311)

	Neighbourhood	Postal Code	Borough	ATM	Afghan Restaurant	African Restaurant	Airfield	American Restaurant	Arcade	Argentinian Restaurant	...	Vietnamese Restaurant	Volleyball Court	Waterfall	Waterfront	Whisky Bar	Wine Bar	Wine Shop	Wings Joint	Xinjiang Restaurant	Yoga Studio
0	Haymarket	2000.0	SYDNEY STREETS	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	0	0	0
1	Haymarket	2000.0	SYDNEY STREETS	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	0	0	0
2	Haymarket	2000.0	SYDNEY STREETS	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	0	0	0
3	Haymarket	2000.0	SYDNEY STREETS	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	0	0	0
4	Haymarket	2000.0	SYDNEY STREETS	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	0	0	0

Top 5 venues by neighbourhood

(191, 8)

	Neighbourhood	Postal Code	Borough	1st Venue	2nd Venue	3rd Venue	4th Venue	5th Venue
0	Annandale	2038.0	LEICHHARDT	Café	Grocery Store	Climbing Gym	Bakery	Bar
1	Armidale	2350.0	NSW NORTH COAST	Café	Chinese Restaurant	Pub	Department Store	Coffee Shop
2	Ashfield	2131.0	ST GEORGE	Dumpling Restaurant	Chinese Restaurant	Café	Malay Restaurant	Platform
3	Auburn	2144.0	BANKSTOWN	Café	Pizza Place	Supermarket	Coffee Shop	Turkish Restaurant
4	Balmain	2041.0	LEICHHARDT	Café	Pub	Park	Pizza Place	Sushi Restaurant

5. Discussion

The outcome

The top 5 venues gave us a better overview by postal code area. The top 5 results are perfect for someone wanted to see which neighbourhood is best suitable for their own needs.

We tried to cluster the results, but the outcome was not satisfying. it would require to adjust our analysis, by maybe finding the top infrastructures per postal code.

6. Conclusion

The improvements

The analysis performed gave an overview of all the neighbourhoods in Sydney. Perfectly first glance at a city for a new resident or someone who desires to change neighbourhood.

The analysis is rather superficial, to only base its choice of moving depending on the top 5 venues. I would recommend to extend it to maybe top 15 venues and do a further analysis on the infrastructure each neighbourhood has to offer.

The background features a dark blue field on the right and a light blue field on the left, separated by a diagonal line. A thin, dark blue line runs parallel to the diagonal line, and a thin, light blue line runs parallel to the dark blue line.

Sydney at a glance