What Restaurant to Open in Australia

Peter Zhong

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1. Introduction

This project helps the user to decide what restaurant to open in Australia by exploring the most popular cuisines in Sydney and Melbourne.

The audience is an investor looking to open a restaurant in Australia. However, he/she does not know what type of cuisine would be popular or welcomed. To maximise the success rate of the restaurant, the investor would like to identify the most popular cuisines in Australia.

The target audience is restaurant owners. They care about this because it determines the success of their new restaurants.

2. Data

We will retrieve restaurant data from Foursquare and find out the most popular types of cuisines. For the location, we will use data from the two biggest cities in Australia - Sydney and Melbourne. The Foursquare query will return the number of restaurants of each type of cuisines, we then visualise the data by plotting a bar graph.

Example: In Sydney, Australia, the most opened restaurant might be Australian food. We would query Foursquare to return a json file, and then retrieve the number of Australian restaurants from the dataset.

Features: We will use the features such as cities, cuisines, and number of restaurants.

3. Methodology

By using exploratory analysis, we find out the number of restaurants opened in Sydney or Melbourne for each type of cuisines.

	City	Cuisine	Number of restaurants
0	Sydney, Australia	Afghan	4
1	Sydney, Australia	African	11
2	Sydney, Australia	American	66
3	Sydney, Australia	Burmese	1
4	Sydney, Australia	Cambodian	4
...	...	...	...
125	Melbourne, Australia	Spanish	56
126	Melbourne, Australia	Sri Lankan	7
127	Melbourne, Australia	Swiss	5
128	Melbourne, Australia	Turkish	34
129	Melbourne, Australia	Ukranian	0

130 rows × 3 columns

From the above table, we can see that there are a total of 130 rows.

For data preparation, we use one-hot encoding and group the data by city.

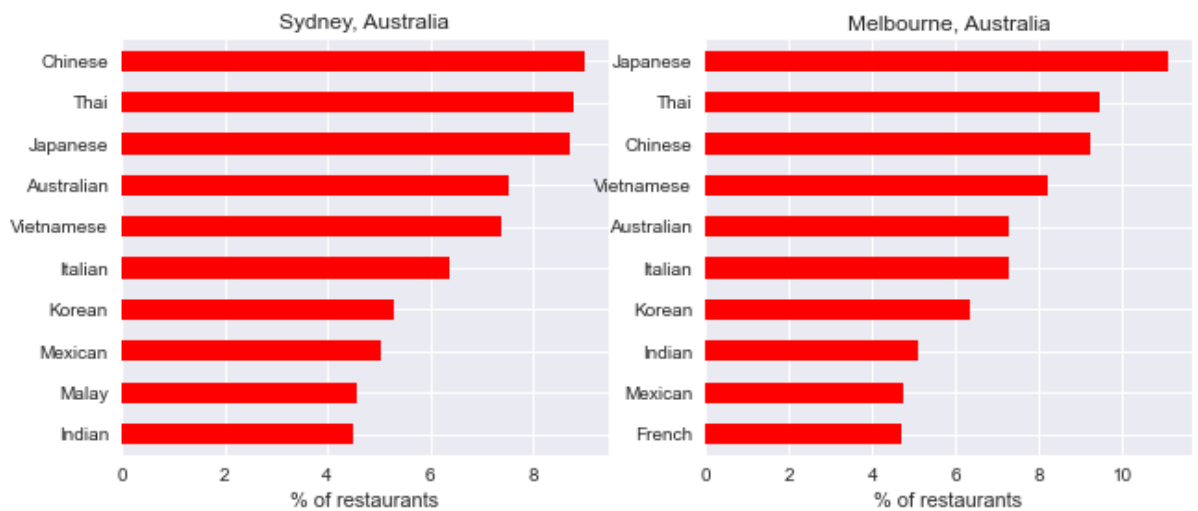| City	Afghan	African	American	Argentinian	Australian	Austrian	Bangladeshi	Belarusian	Belgian	Bosnian	...	Swiss	Syrian	Tatar	Thai	Tibetan
Melbourne, Australia	5	11	61	7	142	7	2	0	13	0	...	5	2	0	185	2
Sydney, Australia	4	11	66	4	197	4	7	0	12	1	...	6	3	0	230	1

2 rows × 65 columns

We then perform normalisation.

City	Afghan	African	American	Argentinian	Australian	Austrian	Bangladeshi	Belarusian	Belgian	Bosnian	...	Swiss	Syrian	Tatar	
Melbourne, Australia	0.255754	0.562660	3.120205	0.358056	7.263427	0.358056	0.102302	0.0	0.664962	0.000000	...	0.255754	0.102302	0.0	9.46:
Sydney, Australia	0.152730	0.420008	2.520046	0.152730	7.521955	0.152730	0.267278	0.0	0.458190	0.038183	...	0.229095	0.114548	0.0	8.78:

2 rows × 65 columns

We then plot the data into a bar graph to find out the 10 most popular restaurants in Sydney and Melbourne.

4. Results

For Sydney, the top 10 most popular cuisines are:

(1) Chinese
(2) Thai
(3) Japanese
(4) Australian
(5) Vietnamese
(6) Italian
(7) Korean
(8) Mexican
(9) Malay
(10) Indian

For Melbourne, the top 10 most popular cuisines are:

(1) Japanese
(2) Thai
(3) Chinese
(4) Vietnamese
(5) Australian
(6) Italian
(7) Korean
(8) Indian
(9) Mexican
(10) French

5. Discussion

Based on the bar graph, we can see that Chinese, Japanese and Thai are among the top three most popular cuisines in Sydney and Melbourne. Therefore, our analysis recommends the investors/restaurant owners to open Chinese, Japanese, or Thai restaurant in Australia.

6. Conclusion

To assist investors/restaurant owners to decide what restaurant to open in Australia, this study retrieves locational data for Sydney and Melbourne from Foursquare, and analysed which types of cuisines are most popular in these two cities. The results showed the top 10 most popular cuisines in each city. Our recommendation for the investors/restaurant owners is to select one of the top three most popular cuisines in both cities, which are Chinese, Japanese and Thai. For future study, to improve the scope of analysis, we may add more cities in the analysis.