Feasibility of opening a Restaurant in Canberra, Australia

Final Project: Applied Data Science Capstone

Problem Statement, and Target Audience

Problem Statement

- Feasibility of opening a restaurant (take away) around cluster of offices/workspaces in Canberra

Target Audience

1) Clusters of workplaces and emerging startups in the city

2) Students and recent university graduates

3) Feasibility of a restaurant for potential investors

Introduction

- Canberra is Australia's largest inland city and the capital of Australia. It has been dubbed as 'Start up capital' and one of the worlds best cities to live in.

- To support start ups, the Australian Capital Territory (ACT) government has introduced various grant opportunities, such as InnovationConnect, which provides grants of up to $50,000 to help Canberra-based businesses develop their products and services. Similarly, for up-and-coming entrepreneurs, there's InnovationACT, a business plan competition for university students, run by the Australian National University and the University of Canberra.

- Having lived in Canberra and as a former student of Australian National University, I am interested in exploring the possibility of opening a take-away restaurant for offices and students/graduates of nearby universities.

PS. This idea is inspired from one of the blog posts at towardsdatascience.com

Data Description and Structure

Step 1

List of suburbs (web-scrapping) - https://www.allhomes.com.au/news/cbr-the-canberra-suburbs-where-rents-have-risen-and-fallen-the-most-891373/

Step 2

Adding postal codes to suburbs (through Google.com)

Step 3

Short-listing of suburbs (based on some criteria - such as median weekly rent, YoY % Change)

Step 4

Using foursquare location data (to explore the density of existing restaurants in the suburbs) - https://foursquare.com/

Step 5

Data exploration, presentation, and visualization

Step 1

List of suburbs (web-scrapping)

	Suburb	Median Weekly Rent	YoY Change
0	Suburb	Median Weekly Rent	YoY Change
1	Dickson	$628	14.1%
2	Holder	$560	12%
3	Melba	$530	10.4%
4	Red Hill	$820	9.3%
5	Monash	$545	9%
6	Rivett	$523	8.9%
7	Hughes	$663	8.6%
8	Pearce	$550	7.8%
9	Giralang	$520	7.8%
10	Amaroo	$560	7.7%

Step 2

Adding geo coordinates to suburbs

	Suburb	Latitude	Longitude
0	Dickson	-35.25070	149.14054
1	Holder	-35.33709	149.04360
2	Melba	-35.20925	149.04956
3	Red Hill	-35.34078	149.13130
4	Monash	-35.41700	149.10000
5	Rivett	-35.34800	149.03800
6	Hughes	-35.33300	149.09400
7	Pearce	-35.36200	149.08500
8	Giralang	-35.21190	149.09720
9	Amaroo	-35.17140	149.12890

Data set of Suburbs merged with Geographical Coordinates

	Suburb	Median Weekly Rent	YoY Change	Latitude	Longitude
0	Dickson	$628	14.1%	-35.25070	149.14054
1	Holder	$560	12%	-35.33709	149.04360
2	Melba	$530	10.4%	-35.20925	149.04956
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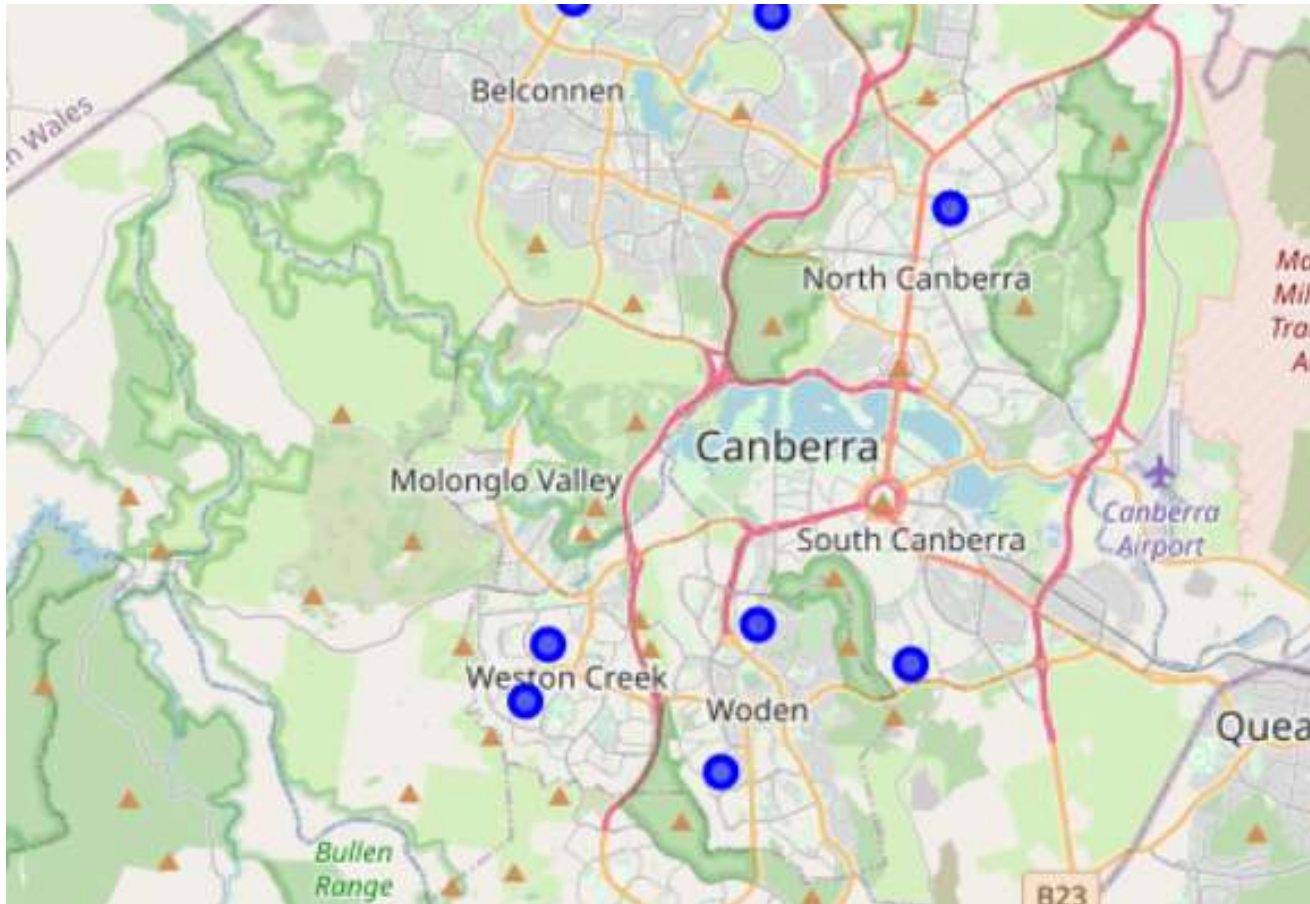
Visual representation of all Suburbs on the map

Exploring neighborhood of 3 Suburbs using FourSquare API

Step 3

Short-listing of suburbs

Step 4

Using foursquare location data (to explore the density of existing restaurant)

Suburb: **Giralang** (lowest Median Rent)

	name	categories	lat	lng
0	7-Eleven	Convenience Store	-35.213929	149.095845
1	Airconditioning Canberra	Home Service	-35.219434	149.092734

Suburb: **Amaroo** (lowest YoY% increase)

	name	categories	lat	lng
0	Mirchi Indian Cuisine	Indian Restaurant	-35.174444	149.119959
1	Saffron Room	Persian Restaurant	-35.176828	149.134952
2	da Nunzio Caffe Bar & Ristorante	Italian Restaurant	-35.176540	149.133950
3	IGA Ngunnawal Platypus	Grocery Store	-35.174178	149.119989
4	Yerrabi Pond	Lake	-35.176115	149.130478

Suburb: **Monash** (Median weekly rent & YoY% increase)

	name	categories	lat	lng
0	Common Grounds	Café	-35.413532	149.109627
1	Panda Chinese Restaurant	Chinese Restaurant	-35.416760	149.098640
2	SPAR Supermarket	Grocery Store	-35.416930	149.098930
3	Bus Stop (#1088)	Bus Stop	-35.417296	149.100437

Step 5

Data exploration, presentation, and visualization

Suburb: **Giralang** (lowest Median Rent)

- Very few existing restaurant – reflects low demand in the area

uburb: **Amaroo** (lowest YoY% increase)

- Quite a few restaurants with variety of food options – reflects good demand in the area

Suburb: **Monash** (Median weekly rent & YoY% increase)

- Restaurant, café, grocery store – potentially good area for additional restaurant. There is also a bus stop, signally mobility options – Preferred Option

Map of Monash Suburb – The preferred option suggested

• Please note: All the coding and various steps of data exploration, cleaning and visualization are available at GitHub: https://github.com/farhanak88/April2020/blob/master/Final%20Project.ipynb