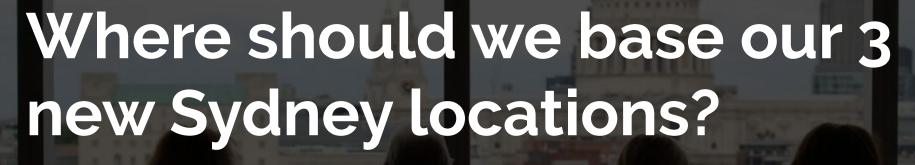
Sydney Cafe Clustering

Recommendations re:

3 new service locations for Cafe Help

Introduction

- Cafe Help is a Coffee Shop Supplies & Repairs business based in Melbourne.
- Cafe Help has decided to expand to Sydney with three new service locations.
- New locations must be within short proximity of local cafes.
- This presentation will recommend 3 new locations for **Cafe Help**.



- Cafe Help

Tip

Important they are near local cafes so they can get repairs and supplies quickly



1. Build Dataset

We took the following approach to build our dataset.

→ Build Query Grid

We defined the area of the Sydney CBD and evenly distributed 500 lat/long geo points within it.

→ Query FourSquare

We passed every point in our query grid to the FourSquare API, building a dataset of all cafes in the Sydney CBD.

→ Map Dataset

We used Folium to plot our cafe dataset on a map.

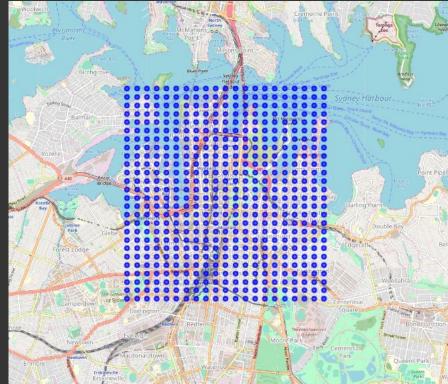
Build Query Grid.

500 geo points in Sydney CBD



Tip

Each of these points would then be passed to the FourSquare API.



Query FourSquare.

Build a dataset of all cafes in Sydney CBD





Tip

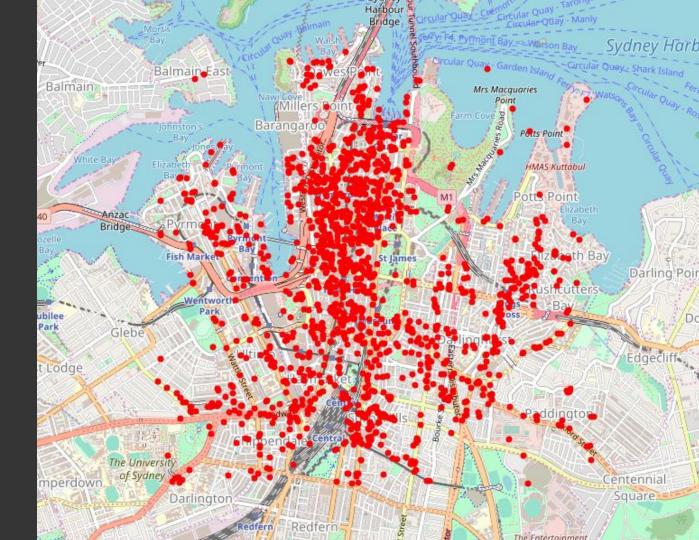
Each of the query grid points are passed to the Search endpoint along with the category "Cafe".

This returns all cafes near each gridpoint and builds our cafes dataset.

	name	categories	address	city	postalCode	state	lat	Ing
id								
53993276498ee67090aabbd4	Laneway	Café	Level 3, Wentworth Building	Darlington	2006	NSW	-33.889302	151.190775
4c611418832fa5930937f1d3	Azuri	Café	Wentworth Building, Butlin Ave	Darlington	NaN	NSW	-33.889613	151.190521
4b0f17f7f964a520165f23e3	Azzuri Espresso	Coffee Shop	Wentworth Bldg., University of Sydney	Darlington	2006	NSW	-33.889655	151.191167
4b1c86fff964a520300824e3	Parma Cucina & Bar	Café	285A Crown St	Surry Hills	2010	NSW	-33.889236	151.191120
4e6946e118a89685778fda60	Snack Express	Café	Wentworth Building, University Of Sydney	Darlington	NaN	NSW	-33.889411	151.191448
4e30a97d7d8b4bd759be50c9	Artos	Café	NaN	Darlington	NaN	Nueva Gales del Sur	-33.888670	151.192111
4f3868b2e4b0ea2d7ef3b62c	Green Olive Cafe	Café	lvy Ln	Sydney	NaN	NSW	-33.889112	151.195784
5c79ed1b5d891b002c67a365	Calico Cafe	Café	146 Abercrombie Street	Redfern	2016	NSW	-33.888955	151.198614
5bad4d07b8fd9d002cb39b66	Wild Flour	Café	NaN	Redfern	2016	NSW	-33.889298	151.198316
58100e37d67c5cc33e1e2c71	The Bean Brewers	Café	96 Abercrombie St	Chippendale	2008	NSW	-33.888700	151.198000
50f735f7e4b02d5a50bfc6da	Brickfields	Bakery	206 Cleveland St	Chippendale	2008	NSW	-33.888615	151.199790
572d2557498ef8b4a9508d89	Henry Lee's	Café	16 Eveleigh St.	Redfern	2016	NSW	-33.889260	151.199771
4b05875ff964a520788e22e3	Thurles Castle Cafe	Café	196-200 Cleveland St.	Sydney	2000	NSW	-33.888510	151.199520
5c04f1ad57a537002c898c6d	Jannah Cafe	Café	NaN	Chippendale	2008	NSW	-33.888227	151.202028
4b255d53f964a520b37024e3	Chalmers Cafe	Café	Chalmers St Surry Hills	Sydney	2010	NSW	-33.889556	151.206114

__

Map Data.



1,561 CAFES IN THE SYDNEY CBD



Tip

Toby's Estate has the most cafes in this region with 7.

The postcode of 2000 has the most cafes in this region with 650.



2. Cluster Dataset

We took the following approach to cluster our dataset.

→ K-Means Clustering

An unsupervised machine learning algorithm which clustered our cafes dataset into three separate clusters.

Map Clusters

We used Folium to plot our cafe clusters on a map.

→ Recommend New Locations

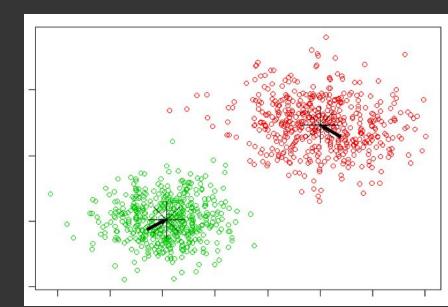
We identified the cluster centres and recommended these as Cafe Help's new locations in Sydney.

K-Means Clustering.

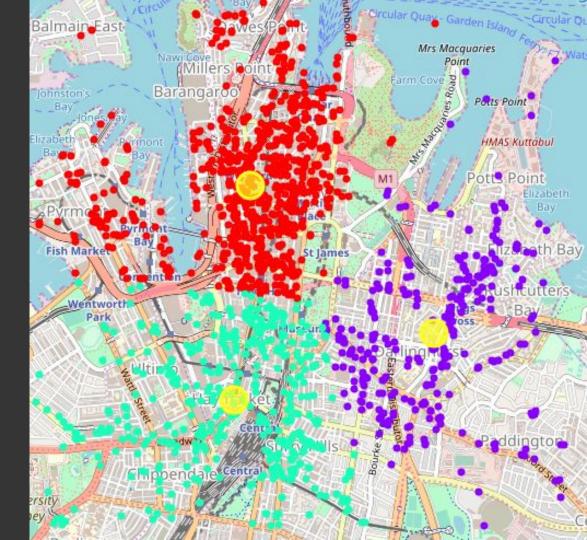
Group our cafes into three separate clusters.

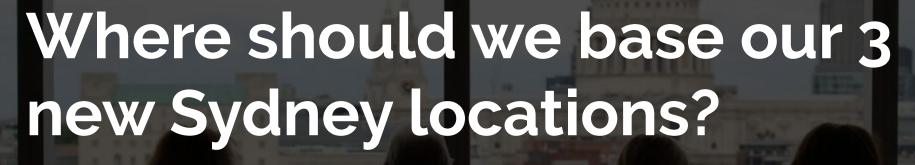


K-Means is an unsupervised machine learning algorithm.



Map Clusters.





- Cafe Help

Tip

Important they are near local cafes so they can get repairs and supplies quickly

_

Recommendation

Wynyard

New store for Cafe Help to service cafe cluster 1.

Haymarket

New store for Cafe Help to service cafe cluster 2.

Darlinghurst

New store for Cafe Help to service cafe cluster 3.



Thank you!

We hope this has been an interesting presentation and its results can be of use to someone!

Credits to the "Made to Stick" Google Presentation template in which this was created......

