THE BATTLE OF NEIGHBOURHOODS: TORONTO

IBM Data Science on Coursera: Capstone

The Battle of Neighbourhoods

INTRODUCTION

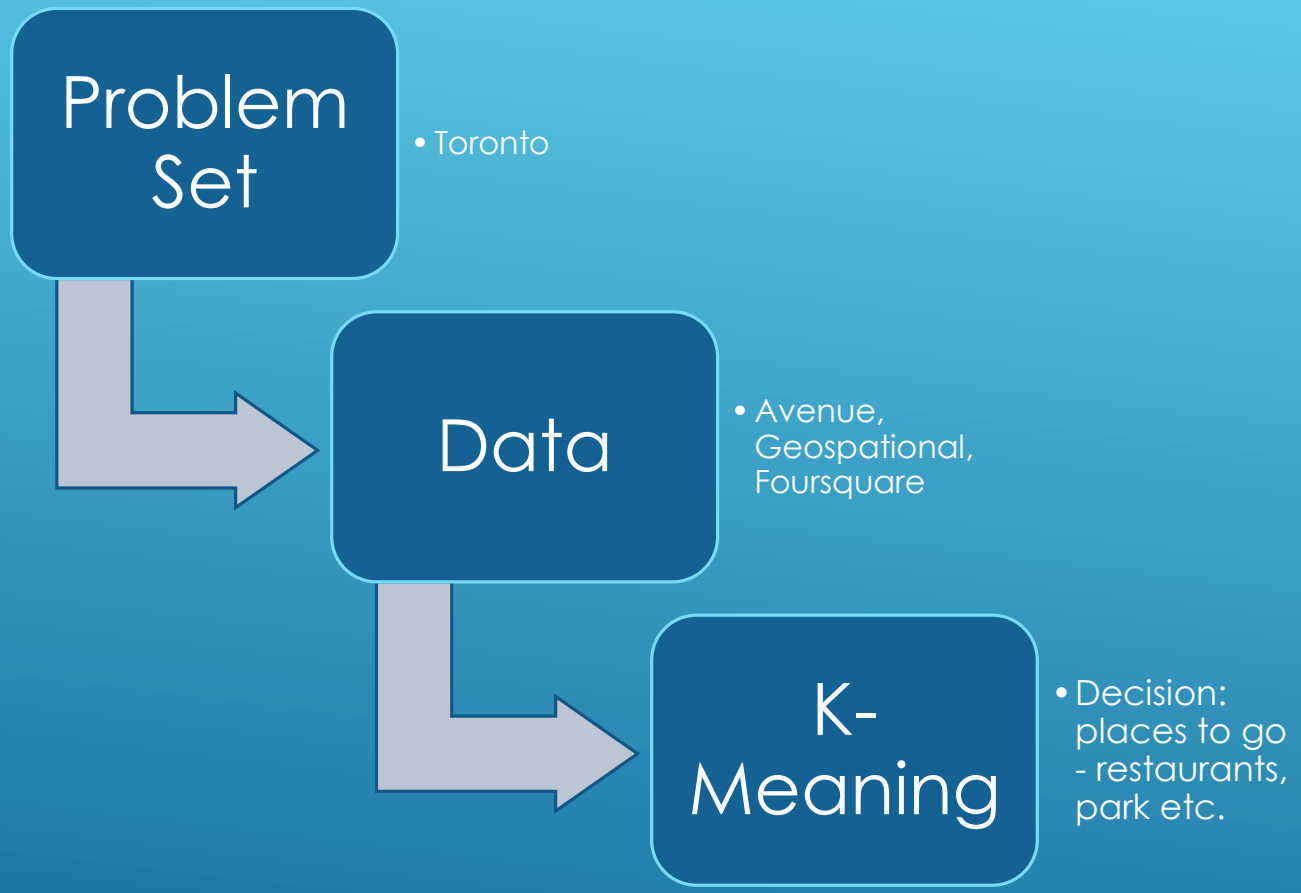
- Finding places to visit when we are in a new place is something that could take too long
- Data and Data Science can help us to make decision based on a data set of information about these locations
- Furthermore, just with a simple initial data it turns possible to make decisions based in it.

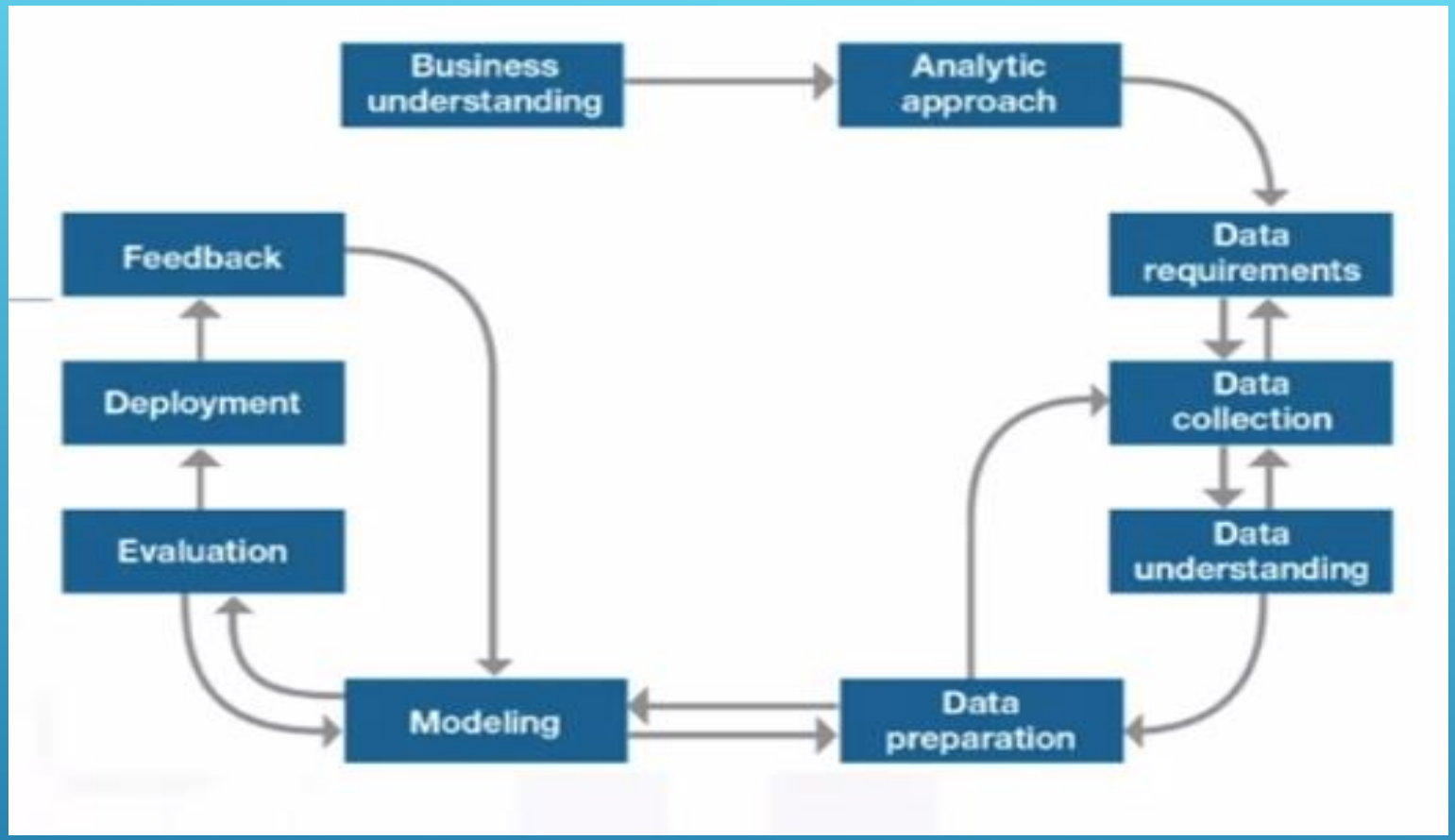
PROBLEM SITUATION

- The algorithm has to compare different places in Toronto based in Data Collected on the internet using APIs and another database to help people choosing the best place to go.

- It includes parks, gym, restaurants, movie theatres etc.

- To do that, anyone who has not been in Toronto before could use it to provide the best decision based in a less time possible just entering the Borough that the person is in.


Problem Set
• Toronto
Data
• Avenue, Geospational, Foursquare
K-Meaning
• Decision: places to go - restaurants, park etc.



METHODOLOGY

- The algorithm using K-Meaning shows that it is possible to decide between data just with few inputs section. First, postal data was collected from Wikipedia and handled to merge GEO location in the data frame. The result is shown here:

	Postal code	Borough	Neighborhood	Latitude	Longitude
0	M3A	North York	Parkwoods	43.753259	-79.329656
1	M4A	North York	Victoria Village	43.725882	-79.315572
2	M5A	Downtown Toronto	Regent Park , Harbourfront	43.654260	-79.360636
3	M6A	North York	Lawrence Manor , Lawrence Heights	43.718518	-79.464763

RESULTS AND DISCUSSION

TORONTO MAP FOLIUM

- Then the clustering process is started

```
# Global Variable to Borough
PLACE_BOROUGH = input(print('Please, type your Borough at Toronto. Example: Downton Toronto'))
```

```
Please, type your Borough at Toronto. Example: Downton Toronto
    Downtown Toronto
```

Here is the Borough Map Folium

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
2	Downtown Toronto	0	Clothing Store	Coffee Shop	Café	Middle Eastern Restaurant	Bubble Tea Shop
3	Downtown Toronto	0	Coffee Shop	Café	Italian Restaurant	Cocktail Bar	Restaurant
7	Downtown Toronto	0	Coffee Shop	Restaurant	Café	Gym	Bakery
11	Downtown Toronto	0	Café	Restaurant	Bar	Italian Restaurant	Japanese Restaurant
12	Downtown Toronto	0	Café	Vietnamese Restaurant	Coffee Shop	Dumpling Restaurant	Vegetarian / Vegan Restaurant
16	Downtown Toronto	0	Coffee Shop	Pizza Place	Café	Restaurant	Pub
18	Downtown Toronto	0	Coffee Shop	Japanese Restaurant	Gay Bar	Restaurant	Sushi Restaurant

FIRST CLUSTER GENERATED

CLUSTER 2 - RESULTS

```
: c_toronto_merged.loc[c_toronto_merged['Cluster Labels'] == 2, c_toronto_merged.columns[[1] + list(range(5,
```

36]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6
6	Downtown Toronto	2	Grocery Store	Café	Park	Baby Store	Coffee Shop	

CLUSTER 3 - RESULTS -

```
: c_toronto_merged.loc[c_toronto_merged['Cluster Labels'] == 3, c_toronto_merged.columns[[1] + list(range(5,
```

37]:

	Borough	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	
13	Downtown Toronto	3	Airport Service	Airport Lounge	Airport Terminal	Boutique	Sculpture Garden	

ANOTHER CLUSTERS GENERATED