

A photograph of a modern, multi-story apartment building with a light-colored, textured facade. The building features several balconies with dark metal railings and large windows. The lighting suggests it's either early morning or late afternoon, with a warm glow. The text is overlaid on the left side of the image.

Battle of the Neighborhoods 'Which Apartment Area to Rent?' Capstone Project Week 4



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1.Introduction - Identifying business problem and background



Toronto is the provincial capital of Ontario. With population is now estimated at 6,196,731, it is the most popular city in Canada and the fourth most popular city in North America. Its food, culture, diversity, and sights to see, this capital of Ontario is a vivacious place to live.

Downtown Toronto is the main central business district of Toronto, Ontario Canada. Located entirely within the district of Old Toronto, it is approximately 17 square kilometers in area, bounded by Bloor Street to the northeast and Dupont Street to the northwest, Lake Ontario to the south, the Don Valley to the east, and Bathurst Street to the west.

Downtown Toronto is full of great neighbourhoods with apartment rentals that have their own unique charm and near all the exciting events and attractions. It is also the location of the municipal government of Toronto and the Government of Ontario and home to three public universities, OCAD University, Ryerson University, and the University of Toronto.

2. Problem Statement



Image from www.google.com

Assuming we are a real estate agent in Downtown area and one of our clients from Italy came to consult on where is the best neighbourhood to rent an apartment in Downtown area.

So, as a real estate agent, in order to assist our client, we need to perform an analysis in order to identify the best location for our client. Since there are also some request pertaining the area from our clients, we need to include the factors in our analysis.

Factors to be included:

- Areas with lots of Italian restaurant and coffee shops

3. Data

1. List of Toronto neighborhoods area will be taken from <https://www.wikipedia.org/>
 - i. Wikipedia page has all the information that are needed to explore and cluster the neighborhoods in Toronto.
 - ii. We need to scrape the Wikipedia page and wrangle the data, clean it, and then read it into a *pandas* dataframe so that it is in a structured format as the figure below.

	Post Code	Borough	Neighborhood
0	M3A	North York	Parkwoods
1	M4A	North York	Victoria Village
2	M5A	Downtown Toronto	Regent Park, Harbourfront
3	M6A	North York	Lawrence Manor, Lawrence Heights
4	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government

3. Data

2. Geographical coordinates of the neighbourhoods with the respective Postal Codes from https://cocl.us/Geospatial_data
- The next data source will provide the geographical coordinates for Toronto with respect to its Postal Code.
 - This list of geographical coordinates will be merge with the list of Toronto data from Wikipedia to form a Dataframe.

	Postal Code	Latitude	Longitude
0	M1B	43.806686	-79.194353
1	M1C	43.784535	-79.160497
2	M1E	43.763573	-79.188711
3	M1G	43.770992	-79.216917
4	M1H	43.773136	-79.239476

Data from https://cocl.us/Geospatial_data

	Postal Code	Borough	Neighbourhood	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
4	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government	43.662301	-79.389494

Merged data from https://cocl.us/Geospatial_data and <https://www.wikipedia.org/>

3. Data

3. List of restaurants and shops area will be taken from <https://foursquare.com/>

- i. FourSquare will be providing data on the venues in the Downtown neighbourhood areas.
- ii. We will acquire the information on venue category based on the list of requests given by our client.

	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Regent Park, Harbourfront	43.65426	-79.360636	Tandem Coffee	43.653559	-79.361809	Coffee Shop
1	Regent Park, Harbourfront	43.65426	-79.360636	Roselle Desserts	43.653447	-79.362017	Bakery
2	Regent Park, Harbourfront	43.65426	-79.360636	Cooper Koo Family YMCA	43.653249	-79.358008	Distribution Center
3	Regent Park, Harbourfront	43.65426	-79.360636	Body Blitz Spa East	43.654735	-79.359874	Spa
4	Regent Park, Harbourfront	43.65426	-79.360636	Impact Kitchen	43.656369	-79.356980	Restaurant

Data from <https://foursquare.com/>