FINDING THE BEST LOCATION TO ESTABLISH A NEW CHINESE RESTAURANT

COURSERA CAPSTONE PROJECT – WEEK 5

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Determining the optimal location for a new Chinese restaurant is crucial for the soon-to-be owner

- Opening a new restaurant (i.e, Chinese restaurant) is often an immigrant/resident's dream and could become their main/only source of income. As such, it is critical for the owner to accurately predict the best location to establish the restaurant to ensure the long-term success of the business.
- Other interested parties include:
 - Residents and new immigrants who want to try out a new Chinese restaurant/make this their regular dining out spot
 - Tourists who come from all over the world to dine at the best Toronto restaurants
 - Essentially everyone who likes Chinese food/is interested in trying out Chinese food

Data acquisition and cleaning

- A list of boroughs/neighbourhoods in Toronto sorted by postcode founded on Wikipedia (https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
- In total, 288 rows and 3 features/columns in the raw dataset.
- Invalid postcodes (postcodes without a corresponding borough) were dropped and neighborhoods were compiled into lists corresponding to each unique postcode
- Cleaned data still contains the 3 features (postcode, borough, neighbourhood) but far less rows

Methodology

- Step 1: import the neighborhood data into a data frame
- Step 2: clean the data
- Step 3: add/append geographic coordinates
- **Step 4**: explore and cluster neighborhoods then superimpose the Toronto map on top
- Step 5: using Foursquare API to screen out all Chinese restaurants in Toronto

Results

 A map of the restaurants show they are fairly scattered, but are more concentrated in Downtown and North York Toronto (labeled in red).

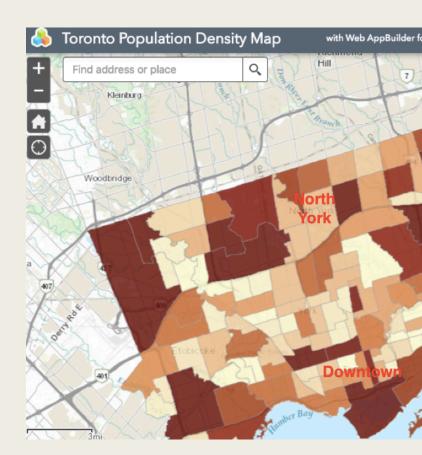
 By clustering the coordinates of the restaurants to the closest borough and displaying it in a data frame, we can further confirm that downtown Toronto has the highest number of Chinese restaurants, followed by North York.



	name	categories
borough		
Central Toronto	9	9
Downtown Toronto	119	119
East Toronto	5	5
East York	2	2
North York	13	13
West Toronto	6	6
York	3	3

Discussion

- I recommend opening a Chinese restaurant in a location with the highest population density and number of Chinese restaurants, which is Downtown Toronto. Rationale:
 - Areas with high population density will have more mouths to feed higher demand for restaurants in those areas
 - Chinatown is located Downtown → the most popular place residents and tourists go when they crave Chinese food (greatest and best selection). A Chinese restaurant set up in this area would get a lot of foot traffic from residents and tourists alike who are just passing buy and want to try out a new place.



Conclusion and future directions

- Built useful model to search for an optimal borough/neighborhood to open a Chinese restaurant based mainly on the number of restaurants in that area
- Model can also be used in the future for restaurants offering other cuisine (i.e, Japanese, Italian) or for other venues (i.e, cafes)