Battle of Neighborhoods

Top Restaurants in Toronto for Delivery Services

Problem Statement:

With the ongoing fight to limit the spread of COVID-19 virus, a lot of restaurants are either closed or operating a take-out service. Furthermore, COVID-19 has impacted the Canadian economy by increasing unemployment rates while businesses in various sectors are closed until further notice. In this tough period, it would be great if Torontonians can have access to their favourite restaurants with delivery services like UBER Eats, FOODORA, DoorDash, and etc.

DATA PREPARATION

Data Requirements:
a. Neighborhood data of Toronto (Wikipedia)
b. FourSquare API for location data of each neighborhood in Toronto

Data Collection:
a. Web scrap Neighborhood data of Toronto (Wikipedia) using Beautiful Soup python library to map Toronto neighborhoods by Postal Code and Borough.
b. Obtain latitude and longitude of each postal code by using 'https://cocl.us/Geospatial_data'.
c. Use foursquare API calls to get the location details corresponding to each neighborhood

Data Understanding
To the data collected in the prior stage, I will explore the data and understand the following:
a. Explore the neighborhoods in Toronto
b. Analyze each neighborhood.
c. Explore the venues corresponding to any one of the neighborhoods.

DATA ANALYSIS

Create a map showing the neighborhoods in Toronto

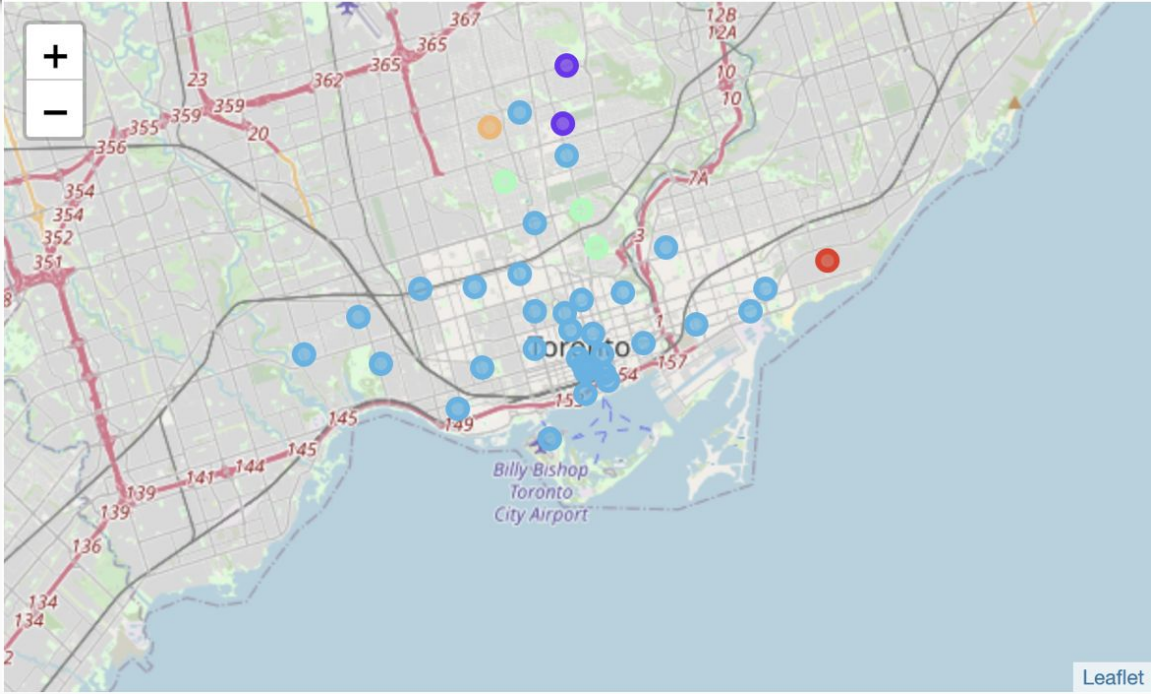
Use One Hot Encoding to Organize Data

```
# one hot encoding
toronto_onehot = pd.get_dummies(toronto_venues[['Venue Category']], prefix=

# add neighborhood column back to dataframe
toronto_onehot['Neighborhood'] = toronto_venues['Neighborhood']

# move neighborhood column to the first column
fixed_columns = [toronto_onehot.columns[-1]] + list(toronto_onehot.columns[
toronto_onehot = toronto_onehot[fixed_columns]

toronto_onehot.head()
```

	Yoga Studio	Accessories Store	Afghan Restaurant	Airport	Airport Food Court	Airport Gate	Airport Lounge	Airport Service	Airport Terminal	American Restaurant
0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0

5 rows × 234 columns

Cluster Analysis



In this study, I created clusters of neighborhoods in Toronto and mapped the top 10 restaurants with each corresponding neighborhood (some filters need to be applied). Delivery services and Torontonians who are tired of the eateries they have in their neighborhoods can now look towards this data to get a refreshment of foods that they might enjoy. Furthermore, delivery services who have not partnered with the restaurants that are highly sought out may want to gain a competitive advantage against their competition by partnering an exclusive contract with the top eateries in various neighborhoods to strengthen their delivery platform.

References

1. https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
2. https://cocl.us/Geospatial_data
3. https://foursquare.com/