

The Battle of Neighborhoods PROJECT REPORT

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Introduction/Business Problem

The objective of this project is to apply Data Science techniques and select a neighborhood in the city of Mississauga, Canada, which is well suited to open a new Pizza Restaurant.

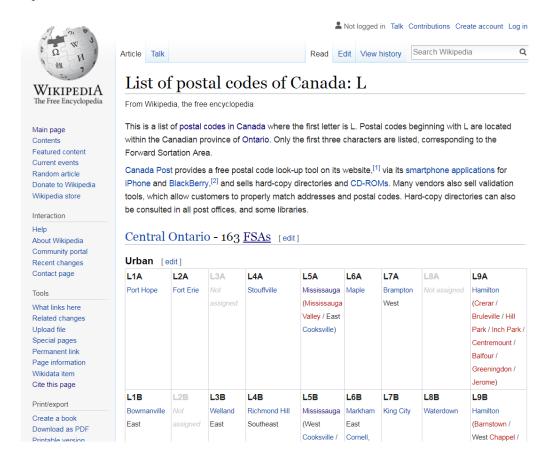
Target audience/potential stakeholders for this project are:

- Entrepreneurs interested in launching new Pizza business;
- Established Pizza businesses looking to expand their brand in Mississauga.

Data

For the execution of this project, the following data sources will be used:

List of Mississauga neighborhoods. This list will be retrieved from Wikipedia page (https://en.wikipedia.org/wiki/List of postal codes of Canada: L), using web scraping techniques.



Geographical coordinates of the neighborhoods. This data will be retrieved using *OpenStreetMap Nominatim* via *geopy* library.

```
# install geopy and import Nominatim for working with geo coordinates
!conda install -c conda-forge geopy --yes
from geopy.geocoders import Nominatim

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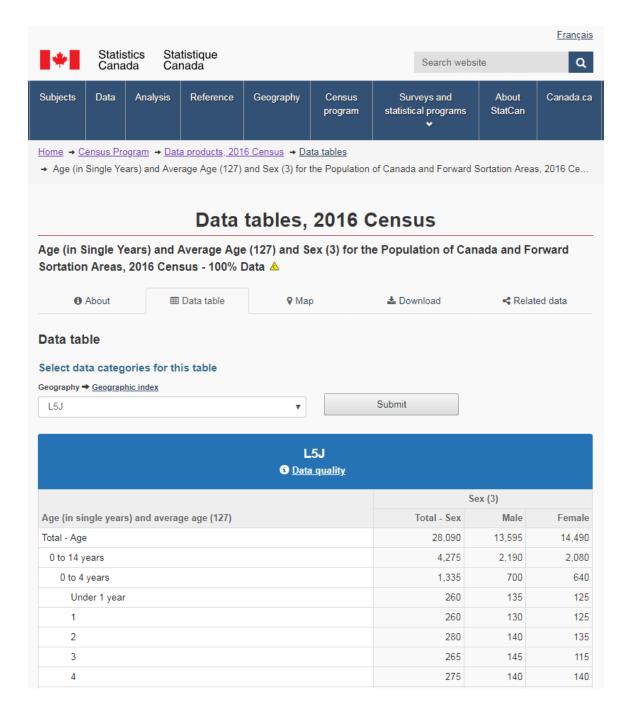
geo=geolocator.geocode("Mississauga Valley, Mississauga, ON")
print(geo.latitude)
print(geo.longitude)

43.5943679
-79.6237667
```

Foursquare location data. This data will be retrieved using Foursquare API. We will be using *Explore* function to retrieve nearby venues, given geographic coordinates of the neighborhoods.

```
 url = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={} &v={}&ll={},{}&radius={}&limit={}'.format(limit) = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={} &v={}&v={}&ll={},{}&radius={}&ll={},{}&radius={}&ll={}&ll={},{}&radius={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&ll={}&
                             CLIENT_ID, CLIENT_SECRET, VERSION, geo.latitude, geo.longitude, 500, 100)
results = requests.get(url).json()
results
{'meta': {'code': 200, 'requestId': '5c31733d6a60713c2bd9d26b'},
    'response': {'headerLocation': 'Cooksville'
     'headerFullLocation': 'Cooksville, Mississauga',
     'headerLocationGranularity': 'neighborhood',
     'totalResults': 11,
     'suggestedBounds': {'ne': {'lat': 43.598867904500004,
          'lng': -79.6175648820002},
       'sw': {'lat': 43.5898678955, 'lng': -79.62996851799981}},
      'groups': [{'type': 'Recommended Places',
           'name': 'recommended',
          'items': [{'reasons': {'count': 0,
                  'items': [{'summary': 'This spot is popular',
                      'type': 'general',
                      'reasonName': 'globalInteractionReason'}]},
               'venue': {'id': '4b0a06b6f964a5202f2123e3',
                   'name': 'Mississauga Valley Park',
                  'location': {'address': '1275 MIssissauga Valley Blvd',
                     'lat': 43.596026195380325,
                   'lng': -79.62405681610107,
                    'labeledLatLngs': [{'label': 'display',
                         'lat': 43.596026195380325,
                        'lng': -79.62405681610107}],
                    'distance': 186,
                     'postalCode': 'L5A 3S8',
                     'cc': 'CA',
                    'city': 'Mississauga',
                    'state': 'ON',
                    'country': 'Canada',
                    'formattedAddress': ['1275 MIssissauga Valley Blvd',
```

Population Age by Postal Code. This information will be retrieved from Statistics Canada website (https://www.statcan.gc.ca/eng/start) from the results of the 2016 Census, using web scraping techniques and used to provide insight into demographic makeup of the candidate neighborhoods.



Methodology

TBD

Results

TBD

Observations and Recommendations

TBD

Conclusion

TBD

References

- 1. Wikipedia contributors. List of postal codes of Canada: L. Wikipedia, The Free Encyclopedia. November 28, 2018, 17:26 UTC. Available at: <a href="https://en.wikipedia.org/w/index.php?title=List of postal codes of Canada: L.wikipedia.org/w/index.php?title=List of postal codes of Canada: L.wikipedia, The Free Encyclopedia. November 28, 2018, 17:26 UTC. Available at: <a href="https://en.wikipedia.org/w/index.php?title=List of postal codes of Canada: L.wikipedia.org/w/index.php?title=List of postal codes of Canada: L.wikipedia.org/w/index.php.codes of Canada: L.wikipedia.org/w/in
- 2. Statistics Canada. Census Program Data products, 2016 Census Data tables. Age (in Single Years) and Average Age (127) and Sex (3) for the Population of Canada and Forward Sortation Areas, 2016 Census 100% Data. Available at: <a href="https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=6&LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=AoA&GID=1256482&GK=9&GRP=1&PID=109790&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2016&THEME=115&VID=0&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=0&D4=0&D5=0&D6=0. Accessed January 6, 2019.