Untitled2

August 23, 2021

The Battle of Neighborhoods

Part One : Introduction / Business Problem

High density population focused at big cities, namely New York, Toronto, etc. Working class tends to find or stay at a location with amenities, the best, within walking distance. Even if they were to look for better opportunities elsewhere, they will look for a place with the same characteristics as mentioned earlier. Amenities and facilities such as schools, hospital, malls, restaurants, amusement park, etc will be the popular choice among the working class.

Part Two : Data

```
[9]: pip install geocoder
```

```
Collecting geocoder
  Downloading https://files.pythonhosted.org/packages/4f/6b/13166c909ad2f2
d76b929a4227c952630ebaf0d729f6317eb09cbceccbab/geocoder-1.38.1-py2.py3-none-
any.whl (98kB)
     |                          | 102kB 21.5MB/s ta 0:00:01
Requirement already satisfied: click in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from geocoder)
(8.0.1)
Requirement already satisfied: requests in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from geocoder)
(2.25.1)
Requirement already satisfied: six in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from geocoder)
(1.15.0)
Collecting ratelim (from geocoder)
  Downloading https://files.pythonhosted.org/packages/f2/98/7e6d147fd16a10a5f821
db6e25f192265d6ecca3d82957a4fdd592cad49c/ratelim-0.1.6-py2.py3-none-any.whl
Requirement already satisfied: future in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from geocoder)
(0.18.2)
Requirement already satisfied: importlib-metadata; python_version < "3.8" in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
click->geocoder) (4.6.1)
Requirement already satisfied: idna<3,>=2.5 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
requests->geocoder) (2.10)
```

Requirement already satisfied: urllib3<1.27,>=1.21.1 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
requests->geocoder) (1.26.6)
Requirement already satisfied: certifi>=2017.4.17 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
requests->geocoder) (2021.5.30)
Requirement already satisfied: chardet<5,>=3.0.2 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
requests->geocoder) (4.0.0)
Requirement already satisfied: decorator in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
ratelim->geocoder) (4.4.2)
Requirement already satisfied: zipp>=0.5 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from importlib-
metadata; python_version < "3.8"->click->geocoder) (3.5.0)
Requirement already satisfied: typing-extensions>=3.6.4; python_version < "3.8"
in /home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
importlib-metadata; python_version < "3.8"->click->geocoder) (3.10.0.0)
Installing collected packages: ratelim, geocoder
Successfully installed geocoder-1.38.1 ratelim-0.1.6
Note: you may need to restart the kernel to use updated packages.

[11]: ```
pip install geopy
```

Collecting geopy
  Downloading https://files.pythonhosted.org/packages/e1/e1/45f25e3d3acf26
782888f847de7c958a2807a039210fb1016cc3fb9555c4/geopy-2.2.0-py3-none-any.whl
(118kB)
        |                            | 122kB 29.4MB/s eta 0:00:01
Collecting geographiclib<2,>=1.49 (from geopy)
  Downloading https://files.pythonhosted.org/packages/df/60/d1d4c4944f9726228faa
80fbe2206c8ddfd9757791b2de2facb8818c5d74/geographiclib-1.52-py3-none-any.whl
Installing collected packages: geographiclib, geopy
Successfully installed geographiclib-1.52 geopy-2.2.0
Note: you may need to restart the kernel to use updated packages.

[13]: ```
pip install matplotlib-venn
```

Collecting matplotlib-venn
  Downloading https://files.pythonhosted.org/packages/ca/e8/53441d7feb29ab10de3b
d46c05358c41f0ba2f57395e88ffbb62d6b69df3/matplotlib-venn-0.11.6.tar.gz
Requirement already satisfied: matplotlib in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from matplotlib-
venn) (3.3.4)
Requirement already satisfied: numpy in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from matplotlib-
venn) (1.19.5)
Requirement already satisfied: scipy in

```
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from matplotlib-
venn) (1.5.3)
Requirement already satisfied: pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.3 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
matplotlib->matplotlib-venn) (2.4.7)
Requirement already satisfied: pillow>=6.2.0 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
matplotlib->matplotlib-venn) (8.3.1)
Requirement already satisfied: python-dateutil>=2.1 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
matplotlib->matplotlib-venn) (2.8.1)
Requirement already satisfied: kiwisolver>=1.0.1 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from
matplotlib->matplotlib-venn) (1.3.1)
Requirement already satisfied: cycler>=0.10 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-
packages/cycler-0.10.0-py3.6.egg (from matplotlib->matplotlib-venn) (0.10.0)
Requirement already satisfied: six>=1.5 in
/home/jupyterlab/conda/envs/python/lib/python3.6/site-packages (from python-
dateutil>=2.1->matplotlib->matplotlib-venn) (1.15.0)
Building wheels for collected packages: matplotlib-venn
  Building wheel for matplotlib-venn (setup.py) … done
  Stored in directory: /home/jupyterlab/.cache/pip/wheels/c5/9c/ac/77b0c91
51c4c264bec6ba18120d73bb24df5b4c1f09c17a41c
Successfully built matplotlib-venn
Installing collected packages: matplotlib-venn
Successfully installed matplotlib-venn-0.11.6
Note: you may need to restart the kernel to use updated packages.
```

```python
[16]: import json, requests
import numpy as np
import pandas as pd
pd.set_option('display.max_columns', None)
pd.set_option('display.max_rows', None)
from pandas.io.json import json_normalize # tranform JSON file into a pandas
 ↪dataframe
from geopy.geocoders import Nominatim
import folium
# Matplotlib and associated plotting modules
import matplotlib.pyplot as plt
import matplotlib.cm as cm
import matplotlib.colors as colors
from matplotlib_venn import venn2
from sklearn.cluster import KMeans
```

```python
[ ]:
```