

The Battle of Neighbourhoods

Introduction

This project is aimed at clustering the neighbourhoods of Bengaluru, India to

- Find similar neighbourhoods.
- Help people find the most visited places in their neighbourhood
- Find which neighbourhoods have excess/ lack of restaurants etc
- Which neighbourhoods are good for residential purposes

Bengaluru is one of the largest metropolitan cities in India. This project aims to dive into the various neighbourhoods in the city. Finding the similarity between neighbourhoods can help people decide on questions like which neighbourhoods are the best for residential or business purposes. People who are unable to find a property in one of the neighbourhoods might be interested in this data which gives insight on the similarity between neighbourhoods.

Data

The data sources that I'll be using for this analysis are

- Wikipedia - https://en.wikipedia.org/wiki/List_of_neighbourhoods_in_Bangalore
- FourSquare API
- Geocoder

I'll scrape neighbourhoods data from the wikipedia page on Bengaluru. Using geocoder api, I'll obtain the coordinates for the various neighbourhoods of the city like the example shown below.

```
address = 'Koramangala, Bengaluru'

geolocator = Nominatim(user_agent="ny_explorer")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print('The geograpical coordinate of Koramangala are {}, {}'.format(latitude, longitude))
```

The geograpical coordinate of Koramangala are 12.9340114, 77.6222304.

Then, with the help of foursquare API, I'll be able to obtain the location related data for these neighbourhoods as below and will be able to conduct my analysis with the same.

```

LIMIT = 100
radius = 1000
url = 'https://api.foursquare.com/v2/venues/explore?client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'.format
    CLIENT_ID,
    CLIENT_SECRET,
    VERSION,
    latitude,
    longitude,
    radius,
    LIMIT)

results = requests.get(url).json()
results

```

```

{'meta': {'code': 200, 'requestId': '5ccf1e02f594df21bf4f6514'},
 'response': {'suggestedFilters': {'header': 'Tap to show:',
   'filters': [{'name': 'Open now', 'key': 'openNow'}]},
  'headerLocation': 'Koramangala',
  'headerFullLocation': 'Koramangala, Bangalore',
  'headerLocationGranularity': 'neighborhood',
  'totalResults': 183,
  'suggestedBounds': {'ne': {'lat': 12.943011409000007,
    'lng': 77.63144745548819},
   'sw': {'lat': 12.925011390999991, 'lng': 77.61301334451183}},
  'groups': [{'type': 'Recommended Places',
    'name': 'recommended',
    'items': [{'reasons': {'count': 0,
      'items': [{'summary': 'This spot is popular',
        'type': 'general',
        'reasonName': 'globalInteractionReason'}]},
      'venue': {'id': '4fa944cce4b02c573aa1f27c',
        'name': 'Chianti',
        'location': {'address': '1st Cross, 5th A Block',
          'crossStreet': 'Koramangala',
          'lat': 12.933537109665405,
          'lng': 77.6218620764095,
          'labeledLatLngs': [{'label': 'display',
            'lat': 12.933537109665405,

```