

# my\_surroundings

March 8, 2018

## 1 My Surroundings

1.1 Author: Gregorio Ferreira - ferreiradesajg@gmail.com

### 1.1.1 Document description:

This notebook, contains the steps followed to explore, validate and prepare the "Surroundings.json" data source, to be used as features.

```
In [1]: import json
import pandas as pd
from pandas.io.json import json_normalize #package for flattening json in pandas df
import numpy as np
import os
os.chdir('XXX - YOUR PATH HERE - XXX')

#load json object
with open('./data/Surroundings.json') as my_list:
    my_list = json.load(my_list)

print('Sanity check 1, there are only two keys:store_code, surroundings.\nNo list should be returned if all ok!')
for x in my_list:
    if len(x) != 2:
        print(x)
```

Sanity check 1, there are only two keys:store\_code, surroundings.  
No list should be returned if all ok!

```
In [2]: ## Extracting surroundings details
colNames = ('store_code', 'col_name', 'name', 'place_id', 'latitude', 'longitude', 'count')

# Define a dataframe with the required column names
df_out = pd.DataFrame(columns = colNames)

for x in my_list:
    my_surr = json_normalize(x['surroundings'])
```

```

cols = list(my_surr.columns)
#col = 84
for col in cols:
    my_list_l2 = json_normalize(x['surroundings'][col])

    if(len(my_list_l2) != 0):

        for ii in range(0, len(my_list_l2)):
            temp = json_normalize(my_list_l2.address_components[ii])

            postal_code_test = temp.loc[temp['types'].astype(str) == "['postal,

            if(len(postal_code_test) != 0):
                postal_code = postal_code_test.values[0]
            else:
                postal_code = np.nan

            country_test = temp.loc[temp['types'].astype(str) == "['country',

            if(len(country_test) != 0):
                country = country_test.values[0]
            else:
                country = np.nan

            df_out = df_out.append([{'store_code':x['store_code'],
                                    'col_name' : col,
                                    'name' : my_list_l2.name[ii],
                                    'place_id' : my_list_l2.place_id[ii],
                                    'latitude' : my_list_l2.latitude[ii],
                                    'longitude' : my_list_l2.longitude[ii],
                                    'postal_code' : postal_code,
                                    'country' : country,
                                    }],ignore_index=True)

In [ ]: surroundings_details = df_out[['store_code', 'name', 'place_id', 'latitude', 'longitude',
                                         'country', 'postal_code']].drop_duplicates(keep='first')

surroundings_details.to_csv("./result dataset/surroundings_details.csv",
                             sep=',', encoding='utf-8', index=True)

surroundings_count = df_out[['store_code', 'col_name']].pivot_table(index = 'store_code',
                             columns = 'col_name', aggfunc = len, fill_value = 0)

surroundings_count.to_csv("./result dataset/surroundings_count.csv",
                             sep=',', encoding='utf-8', index=True)

repeated_names = surroundings_details.groupby(['name'])['name'].agg(['count'])

```

```
repeated_names = repeated_names[(repeated_names['count'] > 1)]  
  
repeated_names.to_csv("./result dataset/repeated_names.csv",  
                        sep=',', encoding='utf-8', index=True)
```

```
In [ ]:
```