VisualizeDataset

August 19, 2020

0.0.1 This program is to visualize the number of annotations for each traffic signs

[2]:
```
#Load module
import pandas as pd
```

[3]:
```
#read CSV file as dataframe created by Create_CSV_Dataframe_TextFiles.ipynb
df = pd.read_csv (r'C:\Users\subys\CTS2R\Data\Raw\FinalC2TSR.csv')
```

[4]:
```
#Load required modules
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
```

[5]:
```
#Read first 20
df.head(20)
```

[5]:

	img_name	id	class_name	x	y	width	\
0	Capture 1.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
1	Capture 1_1.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
2	Capture 1_10.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
3	Capture 1_11.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
4	Capture 1_15.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
5	Capture 1_2.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
6	Capture 1_3.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
7	Capture 1_5.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
8	Capture 1_6.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
9	Capture 1_8.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
10	Capture 1_9.PNG	0	Pedestrian stop	0.466719	0.259193	0.023772	
11	Capture 2.PNG	1	Green light (Go)	0.795853	0.302758	0.031898	
12	Capture 2.PNG	1	Green light (Go)	0.256778	0.144484	0.098884	
13	Capture 2.PNG	2	Pedestrian go	0.829346	0.322542	0.035088	
14	Capture 2_1.PNG	1	Green light (Go)	0.795853	0.302758	0.031898	
15	Capture 2_1.PNG	1	Green light (Go)	0.256778	0.144484	0.098884	
16	Capture 2_1.PNG	2	Pedestrian go	0.829346	0.322542	0.035088	
17	Capture 2_10.PNG	1	Green light (Go)	0.795853	0.302758	0.031898	
18	Capture 2_10.PNG	1	Green light (Go)	0.256778	0.144484	0.098884	
19	Capture 2_10.PNG	2	Pedestrian go	0.829346	0.322542	0.035088	

```
      height
0   0.022539
1   0.022539
2   0.022539
3   0.022539
4   0.022539
5   0.022539
6   0.022539
7   0.022539
8   0.022539
9   0.022539
10  0.022539
11  0.070743
12  0.034772
13  0.028777
14  0.070743
15  0.034772
16  0.028777
17  0.070743
18  0.034772
19  0.028777
```

[6]:
```
df.columns
```

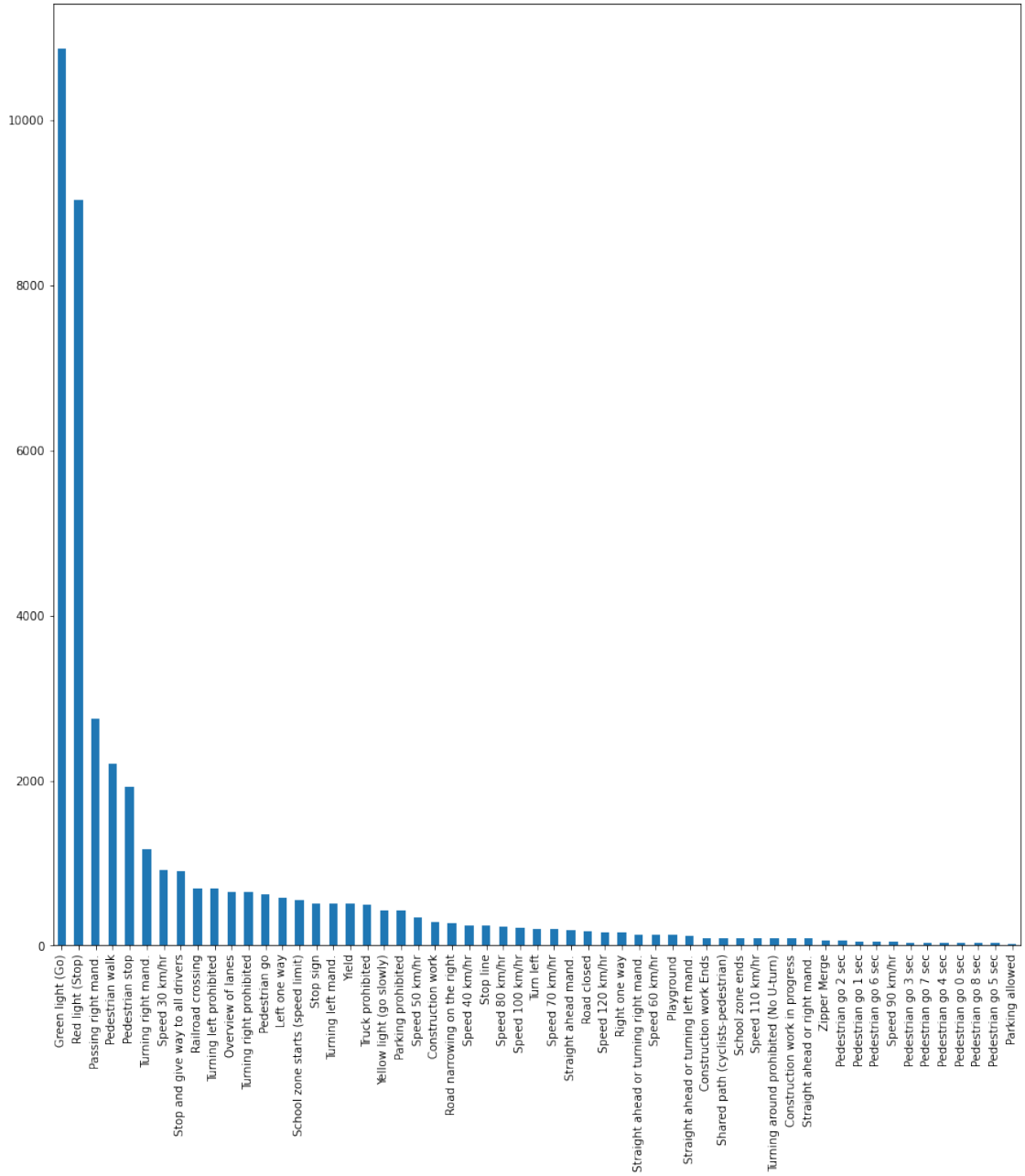
[6]:
```
Index(['img_name', 'id', 'class_name', 'x', 'y', 'width', 'height'],
dtype='object')
```

[7]:
```
df.info()
```

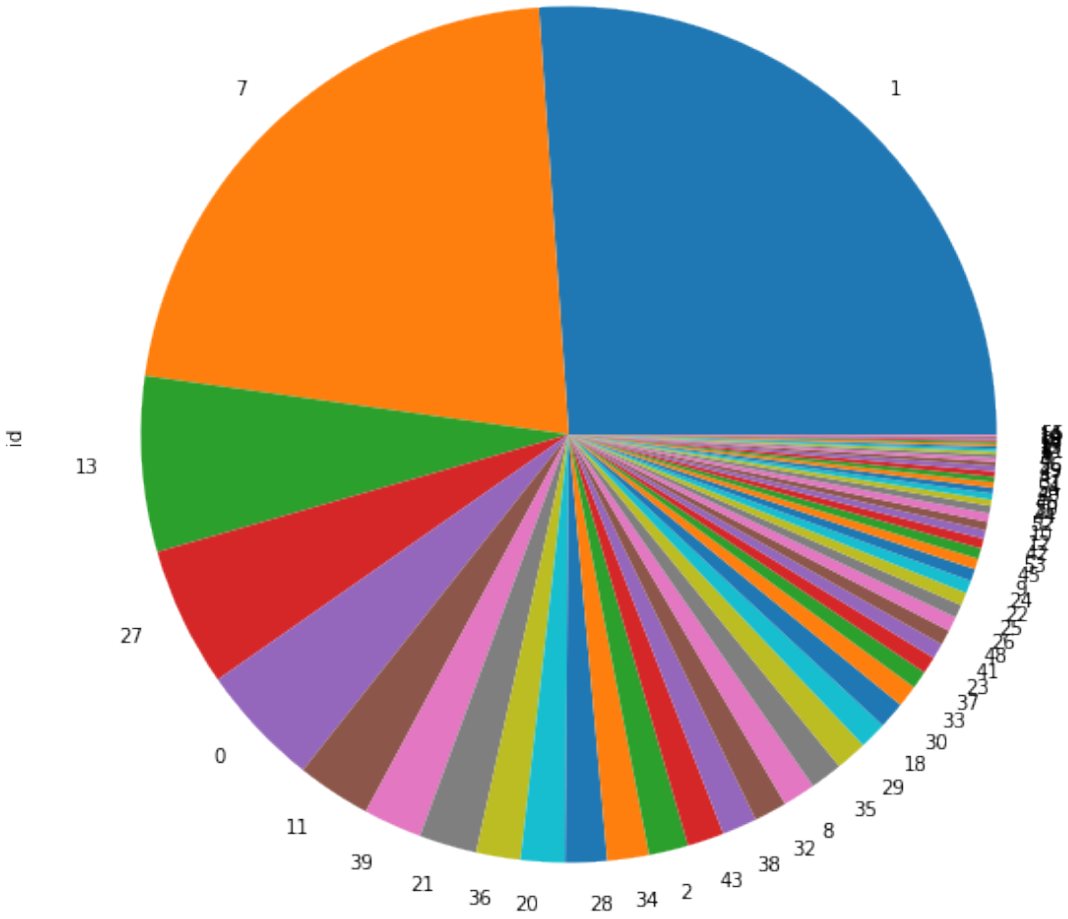
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 41613 entries, 0 to 41612
Data columns (total 7 columns):
 #   Column      Non-Null Count  Dtype
---  ------      --------------  -----
 0   img_name    41613 non-null  object
 1   id          41613 non-null  int64
 2   class_name  41613 non-null  object
 3   x           41613 non-null  float64
 4   y           41613 non-null  float64
 5   width       41613 non-null  float64
 6   height      41613 non-null  float64
dtypes: float64(4), int64(1), object(2)
memory usage: 2.2+ MB
```

[8]:
```
plt.figure(figsize=(15,15))
df["class_name"].value_counts().plot.bar()
```

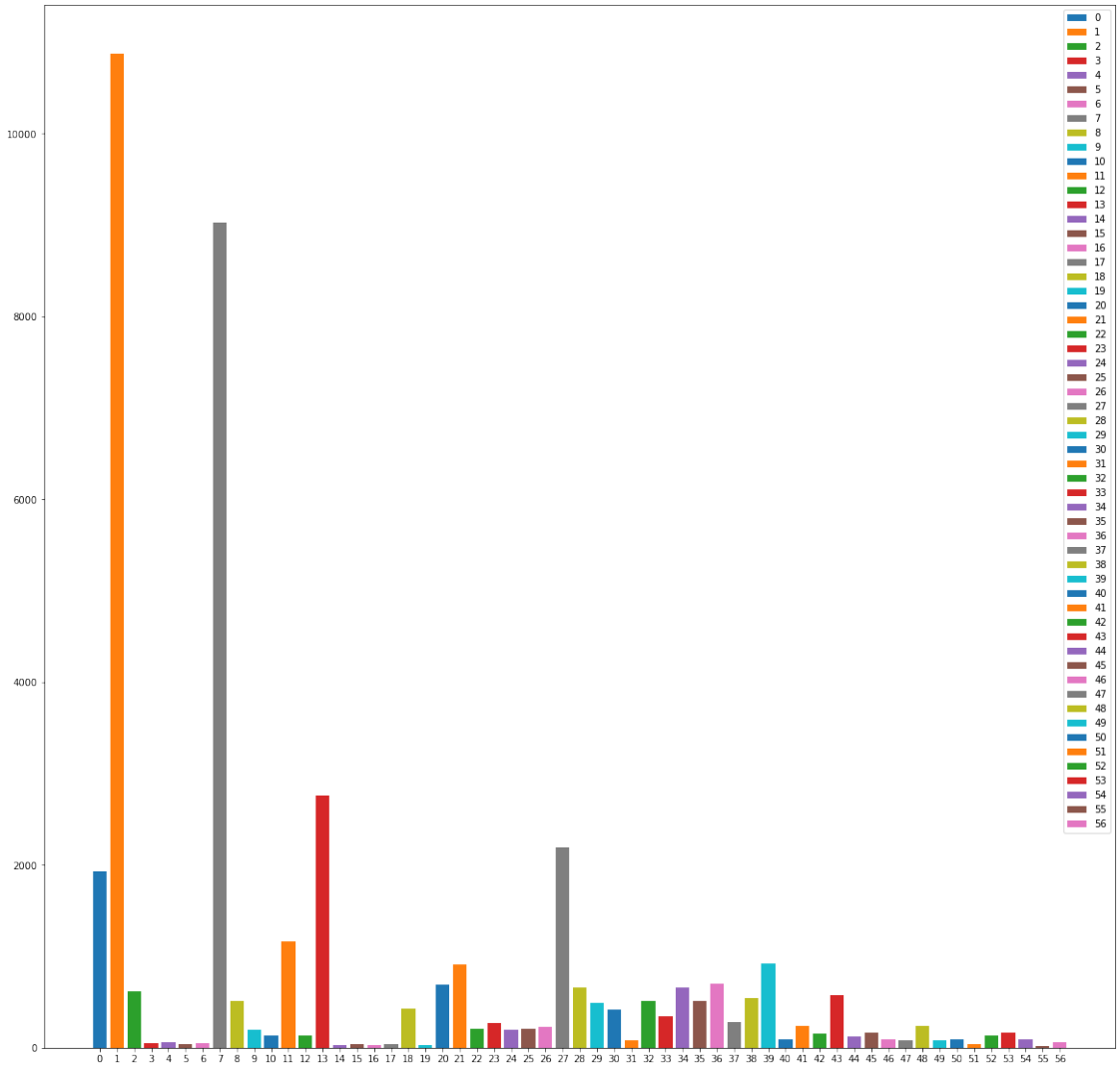
```
plt.show()
```



[9]:
```
plt.figure(figsize=(20,10))
df["id"].value_counts().plot.pie()
plt.gca().set_aspect("equal")
```



[27]:
```
labels = []
plt.figure(figsize=(20,20))
for i, dfi in enumerate(df.groupby(["id"])):
    labels.append(dfi[0])
    plt.bar(i, dfi[1].count(), label=dfi[0])
plt.xticks(range(len(labels)), labels)
plt.legend()
plt.show()
```

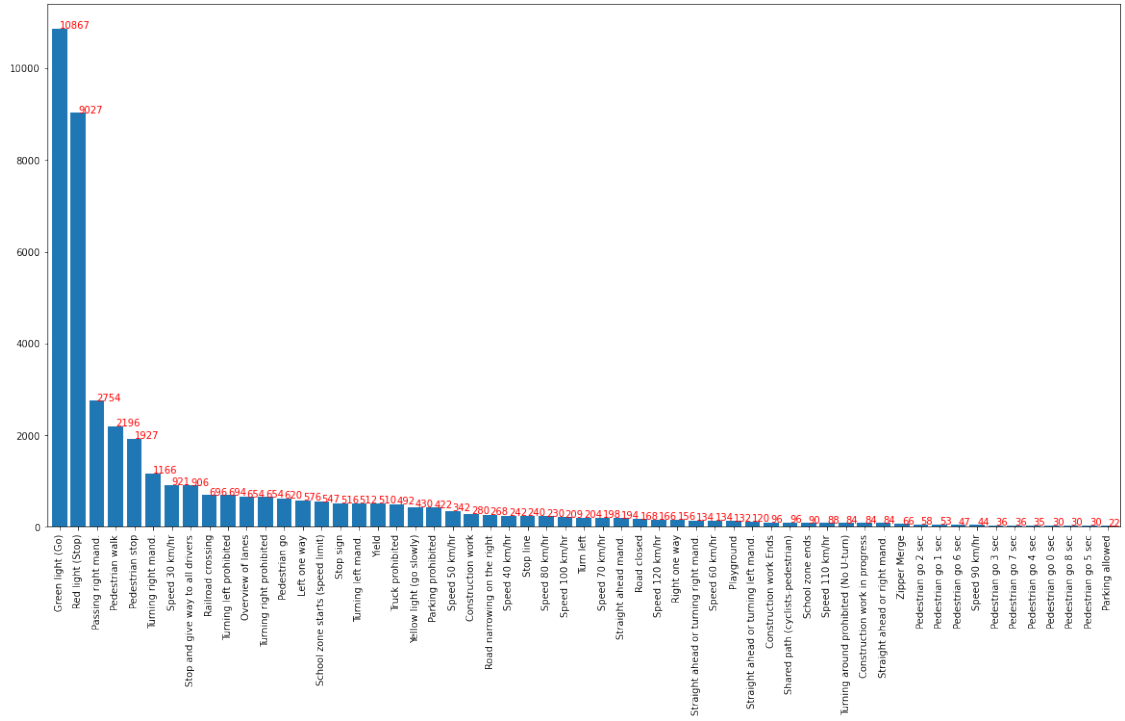


[14]:
```
s = df['class_name'].value_counts()
print (s)
plt.figure(figsize=(20,10))
ax=s.plot.bar(width=.8)
for i, v in s.reset_index().iterrows():
    ax.text(i, v.class_name + 0.2 , v.class_name, color='red')
```

```
Green light (Go)                    10867
Red light (Stop)                     9027
Passing right mand.                  2754
Pedestrian walk                      2196
Pedestrian stop                      1927
Turning right mand.                  1166
Speed 30 km/hr                        921
Stop and give way to all drivers      906
```

Railroad crossing	696
Turning left prohibited	694
Overview of lanes	654
Turning right prohibited	654
Pedestrian go	620
Left one way	576
School zone starts (speed limit)	547
Stop sign	516
Turning left mand.	512
Yield	510
Truck prohibited	492
Yellow light (go slowly)	430
Parking prohibited	422
Speed 50 km/hr	342
Construction work	280
Road narrowing on the right	268
Speed 40 km/hr	242
Stop line	240
Speed 80 km/hr	230
Speed 100 km/hr	209
Turn left	204
Speed 70 km/hr	198
Straight ahead mand.	194
Road closed	168
Speed 120 km/hr	166
Right one way	156
Straight ahead or turning right mand.	134
Speed 60 km/hr	134
Playground	132
Straight ahead or turning left mand.	120
Construction work Ends	96
Shared path (cyclists-pedestrian)	96
School zone ends	90
Speed 110 km/hr	88
Turning around prohibited (No U-turn)	84
Construction work in progress	84
Straight ahead or right mand.	84
Zipper Merge	66
Pedestrian go 2 sec	58
Pedestrian go 1 sec	53
Pedestrian go 6 sec	47
Speed 90 km/hr	44
Pedestrian go 3 sec	36
Pedestrian go 7 sec	36
Pedestrian go 4 sec	35
Pedestrian go 0 sec	30
Pedestrian go 8 sec	30
Pedestrian go 5 sec	30

```
Parking allowed                          22
Name: class_name, dtype: int64
```



[12]:
```
plt.savefig('Id_distri.png')
```

```
<Figure size 432x288 with 0 Axes>
```

[ ]:
```

```