Create_CSV_Dataframe_From_TextFiles

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0.0.1 This program is to create a CSV dataset using all the annotation files present in final directory and automate some manual tasks to save time

0.0.2 The CSV file can be used for Data visualization

0.0.3 I removed the classes for whcih I did not have enough image dataset. so, there was a need to update the class id in all annotation file. This program does the same

1 Create a CSV file for the annotation files

[ ]:
```
#impost libs
import os
import csv
import glob
import pandas as pd
import re
```

[ ]:
```
#Read all the annotation files from final dir and combine content in a csv file
main_folder = r'C:\Users\subys\CTS2R\Data\Raw\FramesBrCr'
classes = []
path = r'C:\Users\subys\CTS2R\miscFiles\FinalC2TSR.names'
with open(path, "r") as f:
    classes = [line.strip() for line in f.readlines()]
print(classes)
print(classes[0])

os.chdir(main_folder)
with open('C:\\Users\\subys\\CTS2R\\Data\\Raw\\FinalC2TSR.csv', mode='w',␣
 ↪newline="") as csv_file:
    fields = ['img_name', 'id', 'class_name', 'x', 'y', 'width', 'height']
    writer = csv.writer(csv_file, delimiter=',')
    writer.writerow(fields)
    for file in glob.glob("*.txt"):
        filename = os.path.basename(file)
        filenames = re.split('\.',filename)
        typess = ('*.jpg', '*.PNG', '*.jpeg')
        for types in typess:
            for file1 in glob.glob(filenames[0]+types):
                fileAname = file1
```

```
                break
        print(fileAname)
        with open(file, "r") as file_open:
            lines = file_open.readlines()
            for line in lines:
                data = line.split()
                data.insert(0, fileAname)
                data.insert(2, classes[int(data[1])])
                print(data)
                writer.writerow(data)
```

2 Find the Actual list of traffic signs to be detected

[2]:
```
import os
import csv
import glob
import pandas as pd
record = pd.read_csv('FinalC2TSR.csv')
record['id'].unique()
print(len(record['id'].unique()))
```

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3 Create actual list of classes

[ ]:
```
f= open("final.txt","w+")
for each in record['id'].unique():
    f.write(classes[each])
    f.write("\n")
f.close()
```

[3]:
```
final_list = []
path = r'C:\Users\subys\CTS2R\miscFiles\FinalC2TSR.names'
with open(path, "r") as f:
    final_list = [line.strip() for line in f.readlines()]
print(final_list)
print(final_list[0])

final_record = list(record['id'].unique())
print(final_record)
```

```
['Pedestrian stop', 'Green light (Go)', 'Pedestrian go', 'Pedestrian go 1 sec',
'Pedestrian go 2 sec', 'Pedestrian go 4 sec', 'Pedestrian go 6 sec', 'Red light
(Stop)', 'Turning left mand.', 'Straight ahead mand.', 'Straight ahead or
turning right mand.', 'Turning right mand.', 'Speed 60 km/hr', 'Passing right
```

```
mand.', 'Pedestrian go 8 sec', 'Pedestrian go 7 sec', 'Pedestrian go 5 sec',
'Pedestrian go 3 sec', 'Yellow light (go slowly)', 'Pedestrian go 0 sec',
'Turning left prohibited', 'Stop and give way to all drivers', 'Turn left',
'Road narrowing on the right', 'Speed 70 km/hr', 'Speed 100 km/hr', 'Speed 80
km/hr', 'Pedestrian walk', 'Turning right prohibited', 'Truck prohibited',
'Parking prohibited', 'Turning around prohibited (No U-turn)', 'Stop sign',
'Speed 50 km/hr', 'Overview of lanes', 'Yield', 'Railroad crossing',
'Construction work', 'School zone starts (speed limit)', 'Speed 30 km/hr',
'School zone ends', 'Speed 40 km/hr', 'Right one way', 'Left one way', 'Straight
ahead or turning left mand.', 'Road closed', 'Shared path (cyclists-
pedestrian)', 'Straight ahead or right mand.', 'Stop line', 'Construction work
in progress', 'Construction work Ends', 'Speed 90 km/hr', 'Playground', 'Speed
120 km/hr', 'Speed 110 km/hr', 'Parking allowed', 'Zipper Merge']
Pedestrian stop
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21,
22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 48, 32, 33, 34, 35, 36, 49, 38, 39, 40,
41, 37, 42, 43, 44, 45, 50, 46, 47, 56, 51, 53, 54, 52, 55]
```

4 Update the class id in all annotation files

[ ]:
```python
import glob,os
main_folder = r'C:\Users\subys\CTS2R\Data\Raw\Frames'
os.chdir(main_folder)
for file in glob.glob("*.txt"):
    filename = os.path.basename(file)
    print(filename)
    destination = "C:\\Users\\subys\\CTS2R\\Data\\Raw\\fl\\" + filename
    with open(file, "r") as file_open:
        with open(destination, "w+") as f:
            lines = file_open.readlines()
            for line in lines:
                data = line.split()
                data[0] = str(final_record.index(int(data[0])))
                print(data)
                print(len(data))
                f.write(str(data[0]) + ' ')
                f.write(str(data[1]) + ' ')
                f.write(str(data[2]) + ' ')
                f.write(str(data[3]) + ' ')
                f.write(str(data[4]))
                f.write("\n")
```

4.1 Create copy of Yolo annotation files with image file names

[ ]:
```
#I used during creating annotation files for images I took from GTRSB
import os
from shutil import copyfile
import re

path = r"..\Data\Raw\14"
src = "C:\\Users\\subys\\CTS2R\\Data\\Raw\\00014_00000_00000.txt"
if os.path.exists(path) == False :
    print("Error")

listing = os.listdir(path)
for img in listing:
    nmaes = re.split('\.',img)
    dest="..\\Data\\Raw\\14\\"+nmaes[0]+".txt"
    print(dest)
    copyfile(src, dest)
```