



2、それで、voc_label.py を使って、labelimage から生成した XML ファイルを yolov3 が使える TXT ファイルに転換する。

```

import xml.etree.ElementTree as ET
import pickle
import os
from os import listdir, getcwd
from os.path import join

classes = ['30a0', '5e78', '53e3', '5e73', '5e74', '65e5', '30b1', '30ab', '30be', '30ce', '30ed', '30ad', '69d8', '5915', '90df', '5f8c', 'ff13', 'ff18', '5206', '8d77', '5e8a', '6042', '671d', '3059',
'3050', '663e', '3053', '306e', '65b9', '5413', '3060', '306a', '52b7', '300a', '4e0b', '3055', '3044', '30c1', '306e', '30af', '30e4', '30e4', '5c71', '65ed', '65ac', '5c4b', '50a9', '57ce', '500', '5f41',
'672c', '553a', 'ff11', 'ff14', '30fc', 'ff34', 'ff25', 'ff2c', 'ff15', 'ff16', 'ff17', 'ff19', 'ff18', 'ff26', 'ff21', 'ff38', 'ff32', '007b', '6210', '6788', '6c38', '5b5f', '82b1', '5b50', 'ff08',
'ff09', '3085', '30ec', '30c9', '30cb', '30f3', '9320', '308c', '30df', '30eb', '30c7', '30a3', '30b9', 'ff4d', 'ff47', '305b', '30d5', '30a7', '30af', '30da', '30b5', '30c1', 'ff23', 'ff41', 'ff50',
'30c3', '3081', '30cb', '914d', '5400', 'ff0f', '304d', '305f', '30d4', '308b', '524d']

def convert(size, box):
    dw = 1./size[0]
    dh = 1./size[1]
    x = (box[0] + box[1])/2.0
    y = (box[2] + box[3])/2.0
    w = box[1] - box[0]
    h = box[3] - box[2]
    x = x*dw
    w = w*dw
    y = y*dh
    h = h*dh
    return (x,y,w,h)

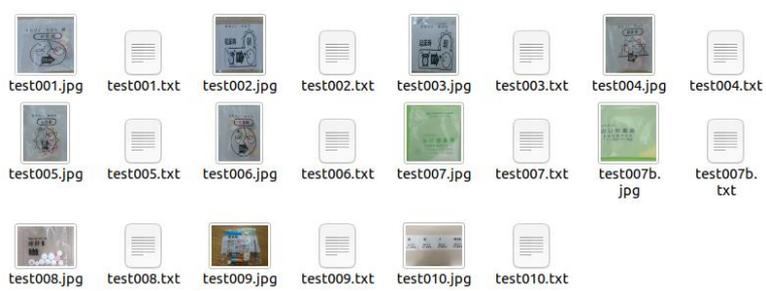
def convert_annotation(image_id):
    in_file = open('/home/neng/darknet/yakuho/YAKUHOdevkit/YAKUHO2007/Annotations/ks.xml'%(image_id))
    out_file = open('/home/neng/darknet/yakuho/YAKUHOdevkit/YAKUHO2007/Labels/ks.txt'%(image_id), 'w')
    tree=ET.parse(in_file)
    root = tree.getroot()
    size = root.find('size')
    w = int(size.find('width').text)
    h = int(size.find('height').text)

    for obj in root.iter('object'):
        cls = obj.find('name').text
        if cls not in classes:
            continue
        cls_id = classes.index(cls)
        xmlbox = obj.find('bndbox')
        b = (float(xmlbox.find('xmin').text), float(xmlbox.find('xmax').text), float(xmlbox.find('ymin').text), float(xmlbox.find('ymax').text))
        bb = convert((w,h), b)
        out_file.write(str(cls_id) + " " + " ".join([str(a) for a in bb]) + "\n")
    image_ids_train = open('/home/neng/darknet/yakuho/YAKUHOdevkit/YAKUHO2007/List.txt').read().strip().split()
    #image_ids_val = open('/home/neng/darknet/yakuho/YAKUHOdevkit/YAKUHO2007/List').read().strip().split()

    list_file_train = open('yakuho_train.txt', 'w')
    #list_file_val = open('boat_val.txt', 'w')

    for image_id in image_ids_train:
        list_file_train.write('/home/neng/darknet/yakuho/YAKUHOdevkit/YAKUHO2007/3PCImages/ks.jpg'%(image_id))
        convert_annotation(image_id)
    list_file_train.close()

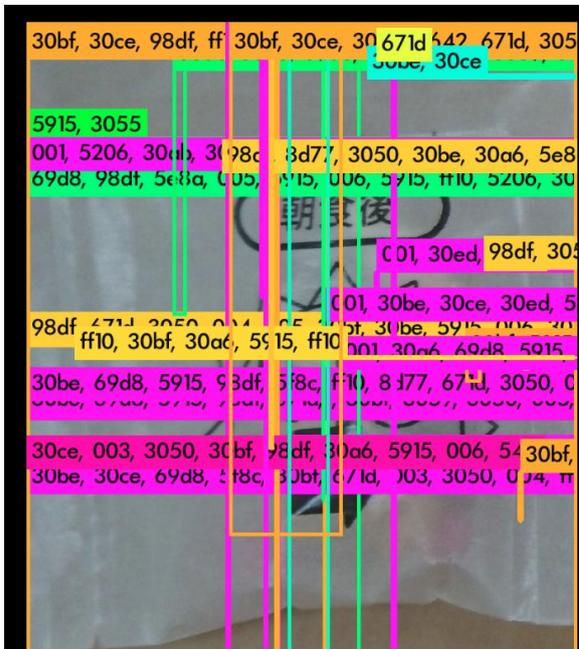
```



3、この十一枚の images を yolov3 で訓練する。

```
ihpc@IHPC: ~/darknet
75R: -nan, count: 0
Region 94 Avg IOU: -nan, Class: -nan, Obj: -nan, No Obj: 0.000135, .5R: -nan, .75R: -nan, count: 0
Region 106 Avg IOU: 0.735732, Class: 0.157414, Obj: 0.437828, No Obj: 0.002371, .5R: 0.982759, .75R: 0.482759, count: 58
1104: 11.367095, 26.059549 avg, 0.001000 rate, 0.546792 seconds, 8832 images
Loaded: 0.000039 seconds
Region 82 Avg IOU: -nan, Class: -nan, Obj: -nan, No Obj: 0.000010, .5R: -nan, .75R: -nan, count: 0
Region 94 Avg IOU: 0.235781, Class: 0.343178, Obj: 0.525050, No Obj: 0.000849, .5R: 0.000000, .75R: 0.000000, count: 10
Region 106 Avg IOU: 0.680652, Class: 0.126347, Obj: 0.452567, No Obj: 0.002656, .5R: 0.911111, .75R: 0.377778, count: 45
Region 82 Avg IOU: -nan, Class: -nan, Obj: -nan, No Obj: 0.000014, .5R: -nan, .75R: -nan, count: 0
Region 94 Avg IOU: -nan, Class: -nan, Obj: -nan, No Obj: 0.000159, .5R: -nan, .75R: -nan, count: 0
Region 106 Avg IOU: 0.629043, Class: 0.061095, Obj: 0.584605, No Obj: 0.004036, .5R: 0.796117, .75R: 0.184466, count: 103
1105: 15.144798, 24.968075 avg, 0.001000 rate, 0.526214 seconds, 8840 images
Loaded: 0.000037 seconds
Region 82 Avg IOU: -nan, Class: -nan, Obj: -nan, No Obj: 0.000012, .5R: -nan, .75R: -nan, count: 0
Region 94 Avg IOU: 0.213329, Class: 0.311013, Obj: 0.424406, No Obj: 0.001074, .5R: 0.000000, .75R: 0.000000, count: 16
```

重みは出てきた



今後の仕事

訓練データは少ないから、Data Augmentation で訓練データセットを増やす。