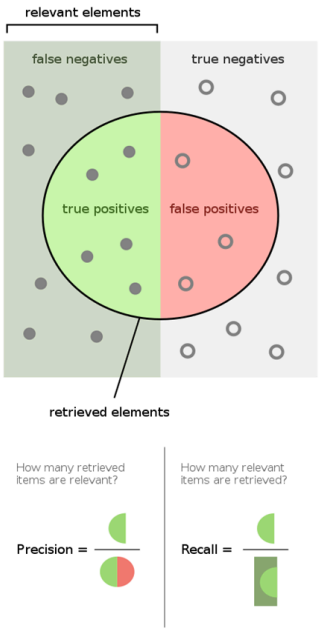
架構解析



- Precision, Recall, F1-score簡單介紹. 給機器學習模型打分數
- recall = sensitivity!!!!!
- 有規定的data格式gt=>txt檔
- 要有一個yaml檔，類似於整體資料的資訊(數量、分類類別...)
- YOLO系列 -使用客製化數據集跑通YOLOV7演算法. 其實YOLOV7是在YOLO… | by KevinLuo
- 我用roboflow做出一個XML檔,和roboflow網頁左邊的格式對照了一下

網頁	XML
width	xmax-xmin
hight	ymax-ymin

- 用**XML檔(x1,x2)和yolo的txt檔(weight,height)**對照數據
  - 第一個是類別
  - **接著是x1/width,y1/height,x2/width,y2/height…**
  - yolo图像检测数据集格式转换：xml 与 txt格式相互转换
  - **x橫軸,y縱軸**

用已生成的binary mask寫成yolo需要的txt檔方法:

- **binary2txt.py**
- 找出多邊形的轉折點x1,y1,x2,y2…

- x1/width,y1/height,x2/width,y2/height…
- 我把0補進valid=>

```
yolov7的指令:
python segment/train.py --data coco.yaml --batch 16 --weights '' --cfg
yolov7-seg.yaml --epochs 300 --name yolov7-seg --img 640 --hyp
hyp.scratch-high.yaml
```

其他要寫的說明:

- ☐ 要記得寫**yaml**檔說明類別
  - ☑ coco.yaml=>**CTS.yaml**
  - ☑ yolov7.yaml=>**yolov7_CTS.yaml**
- ☐ 【小白教学】如何用YOLOv7训练自己的数据集
- ☑ 還要生成**test_list.txt,train_list跟val_list.txt=>txt_list.py**
  - ☐ 如果還有要用**3fold data**要從**server**下載
- ☐ Yolov7训练自己的数据集（超详细教程）
- ☐ 下載分割分branch=> git clone path -b xxx
- ☐ GITHUB 要如何設定下載的分枝branch @新精讚
- ☐ 修改**train.py u7**的
  - ☑ **--weights weights/yolov7.pt**
  - ☑ **--cfg cfg/training/yolov7_CTS.yaml**
  - ☑ **--data data/CTS.yaml**
  - ☑ **--device 0 I look**
  - ☑ **--batch-size 2**
  - ☑ **--epoch 250**
  - ☑ **yolov7-seg.yaml的nc也要改!!!**

每次訓練要改data要做的事:

- 改**CTS.yaml**檔指定資料夾路徑
- **train_list,val_list.txt(txt_list.py)**

server的設備:Python-3.7.16 torch-1.13.1+cu117 CUDA:0 (NVIDIA RTX A6000, 48685MiB)

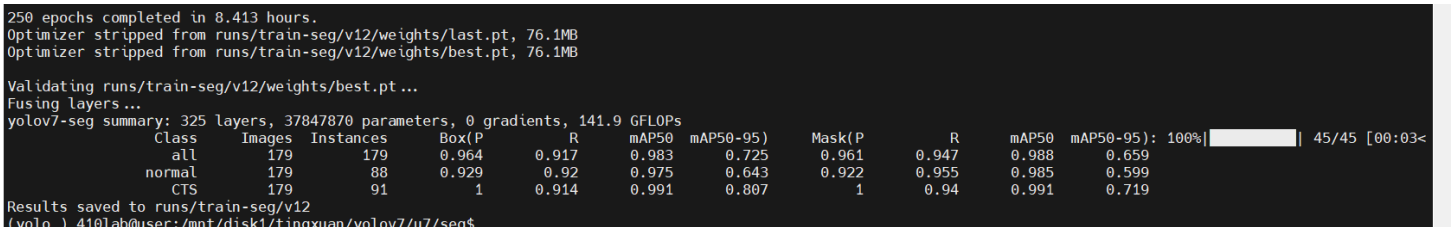
環境:yolo_

cd 到seg

/mnt/disk1/tingxuan/yolov7/u7/seg/

分割訓練的指令:

- python segment/train_MN.py --data data/CTS.yaml --batch 2 --weights weights/yolov7-seg.pt --cfg moels/segment/yolov7-seg.yaml --epochs 250 --name v1 --img 512 --hyp hyp.scratch-high.yaml
    - train-segv12!!!



- patience=100=>best epoch在 目前epoch-100-1

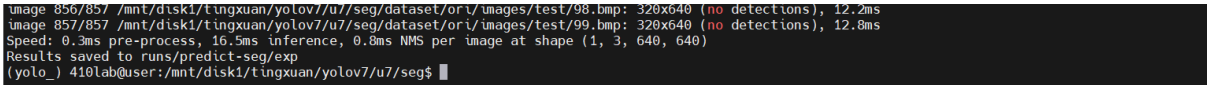
訓練遇到的error:

- No labels found in /mnt/disk1/tingxuan/yolov7/u7/seg/dataset/ori/train.cache, can not start training.
    - /mnt/disk1/tingxuan/yolov7/u7/seg/dataset/ori/dataset/ori/images/train/0.bmp
        - .txt路徑不對
- AttributeError: 'list' object has no attribute 'shape'
    - u7-seg error: AttributeError: 'list' object has no attribute 'shape' · Issue #1259 · WongKinYiu/yolov7 · GitHub
        - python segment/train_MN.py --data data/CTS.yaml --batch 2 --weights weights/yolov7-seg.pt --cfg models/segment/yolov7-seg.yaml --epochs 250 --name v1 --img 512 --hyp hyp.scratch-high.yaml
- error: argument --imgsz/--img/--img-size: invalid int value: '[256,512]'
    - Image size during training in yolov5 - Stack Overflow

預測的指令:

1. python segment/predict.py --weights /mnt/disk1/tingxuan/yolov7/u7/seg/runs/train-seg/v12/weights/best.pt --source /mnt/disk1/tingxuan/yolov7/u7/seg/dataset/ori/images/test/

2. python segment/predict.py --weights C:\Users\Tippy\Desktop\yolov7\u7\seg\runs\train-seg\v12\weights\best.pt --source C:\Users\Tippy\Desktop\yolov7\u7\seg\dataset\test\



3. 要記得--img 512!!!!!!!!!!!!!!!!!!!!!!!!!!!!

預測的問題:

- 字體太大
    a. parser.add_argument('--line-thickness', default=2, type=int, help='bounding box thickness (pixels)')
- 只想要confidance最高的一個

```
247    parser.add_argument('--max-det', type=int, default=1, help='maximum detections per image')
```

- 只保留segment result
    a. predict_try.py##在server上的才是正確的!!
- 類別在txt檔[0]
    a. --save-txt True
    b. 存在labels資料夾
- no detection
    a. Not detecting objects on image · Issue #1215 · WongKinYiu/yolov7 · GitHub
- val.py --save-txt =>RuntimeError: shape '[1, 4]' is invalid for input of size 36
    a. RuntimeError when using "segment/predict.py" with --save-txt · Issue #10669 · ultralytics/yolov5 · GitHub

計算指標:

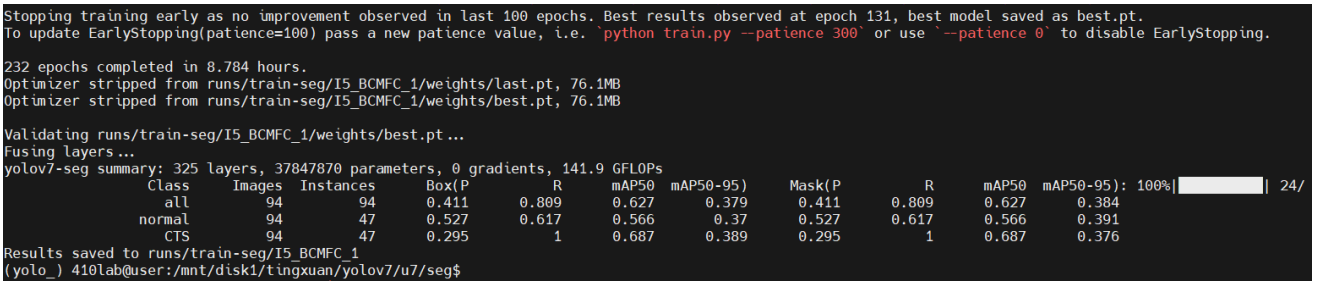
- 有內建!!!!val.py
- 我把**data.yaml**的**val**都改成**test**的路徑!!!!
- 以後都要寫**label/test val**才能算
- YOLOV7学习记录之mAP计算_51CTO博客有可愛貓咪
-

每次要確實Check:

- --weight
- --name
- --data

訓練紀錄:

2. python segment/train_MN.py --data data/CTS.yaml --batch 2 --weights weights/yolov7-seg.pt --cfg models/segment/yolov7-seg.yaml --epochs 250 --name ori --img 512 --hyp hyp.scratch-high.yaml



編號	name	check list	notes
2	ori	☑ yaml=CTS.yaml ☑ txt_list ☑ train_MN_.py ☑ device=0	GPU=4
4	MFC	☑ yaml=CTS_MFC.yaml ☑ txt_list ☑ train_MN.py ☑ device=2	GPU=6
5	BC+MFC	☑ yaml=CTS_BCMFC.yaml ☑ txt_list ☑ train_MN.py ☑ device=3	GPU=7