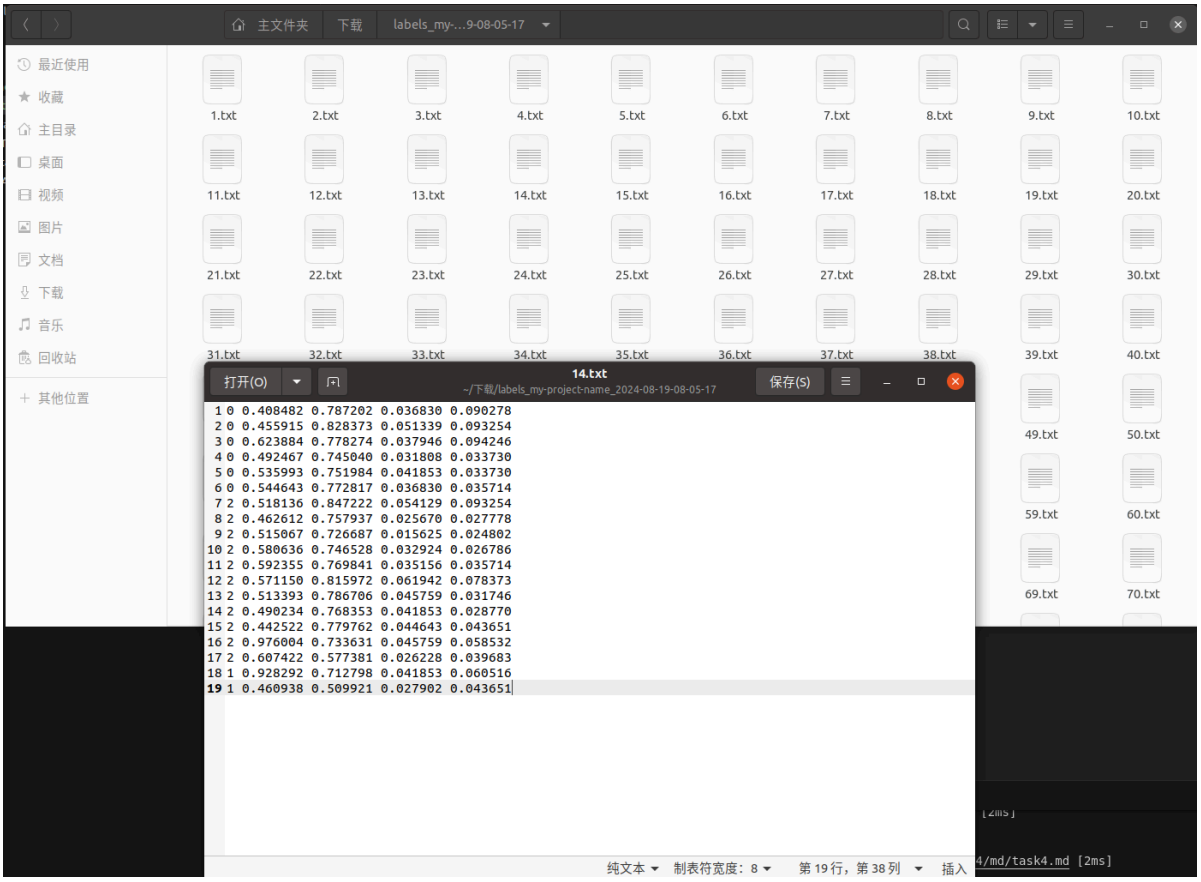
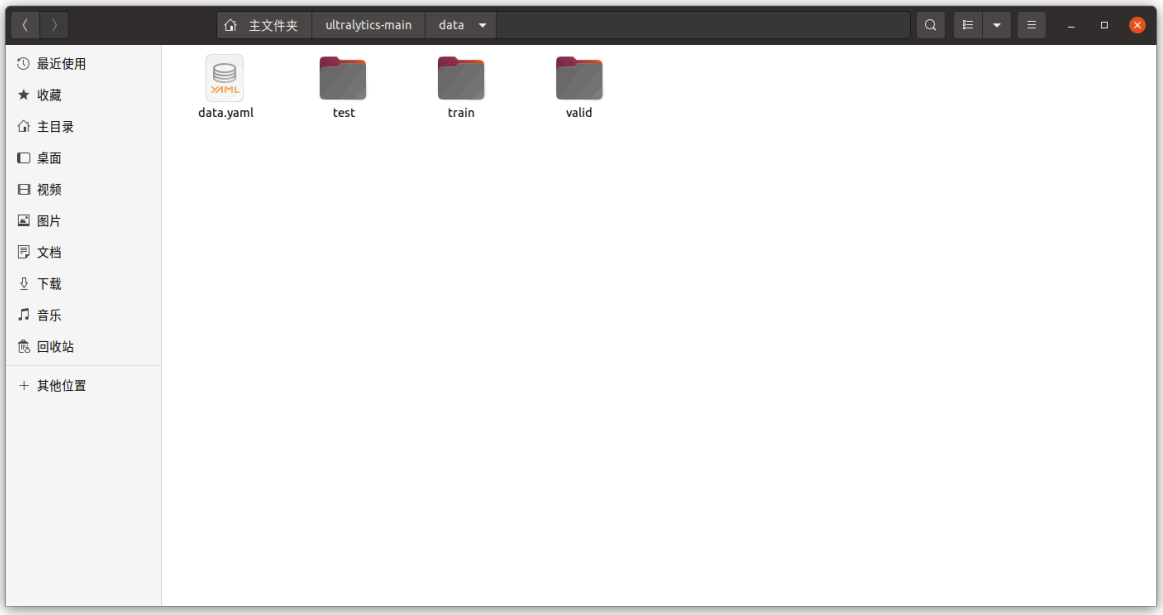
yolo8训练过程

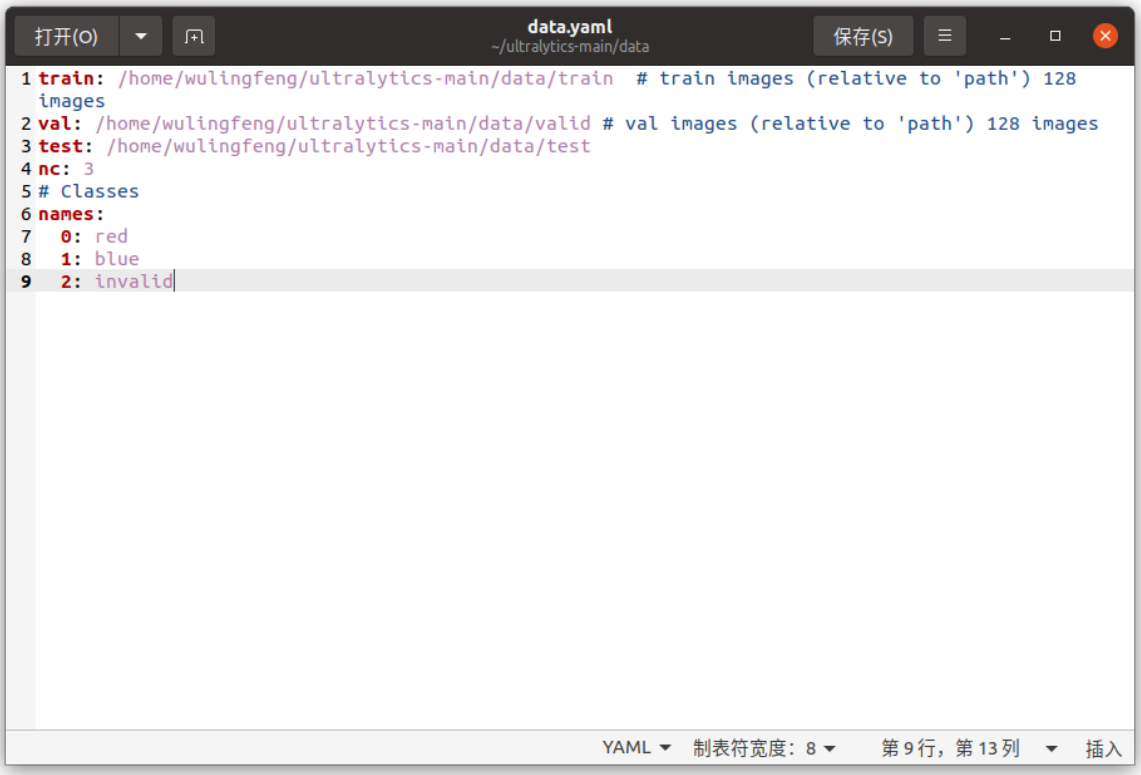
使用make sense对给定图片进行标注，得到标注文件。



新建data目录，对标记文件及原图片进行划分，分为test，train，valid



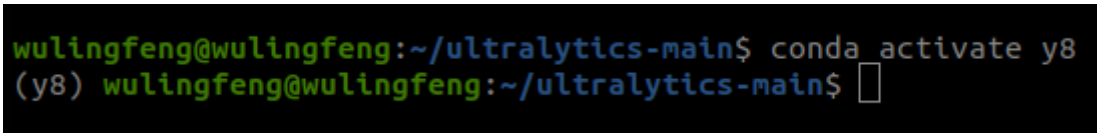
编写yaml文件



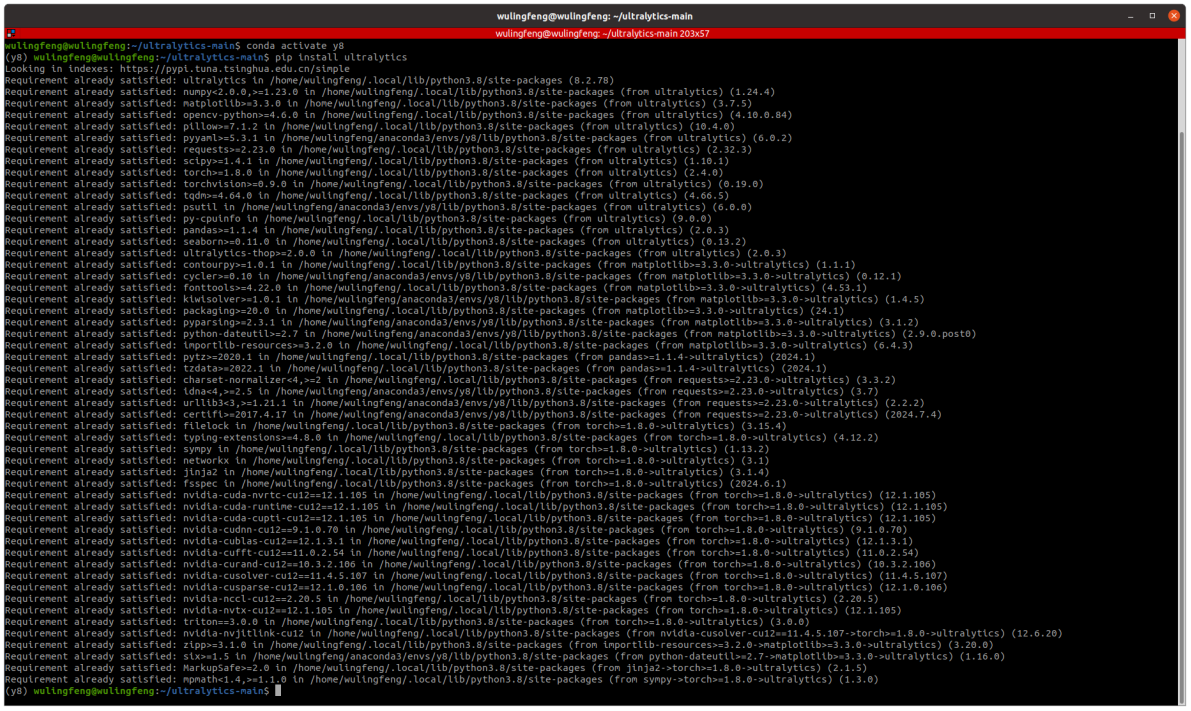
创建虚拟环境

conda create -n y8 python=3.8

进入虚拟环境

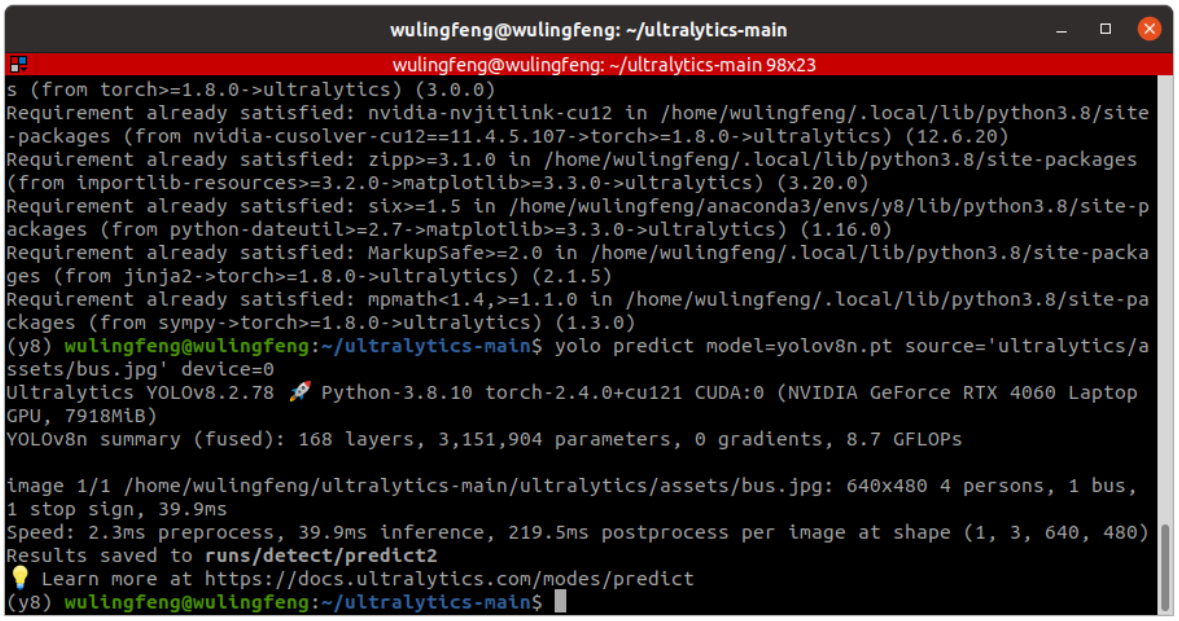


安装软件包



获取预训练模型下载地址前往github镜像下载

测试yolo运行情况



开始训练

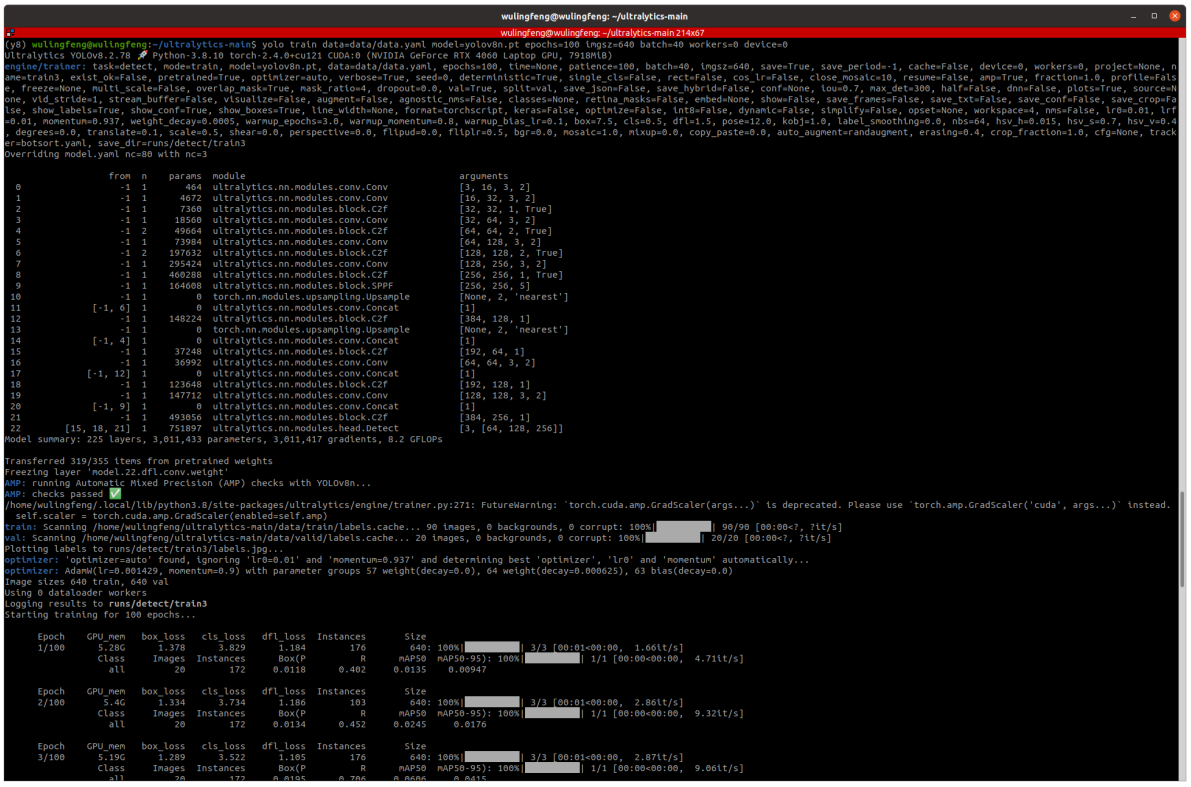
参数：

轮数：100

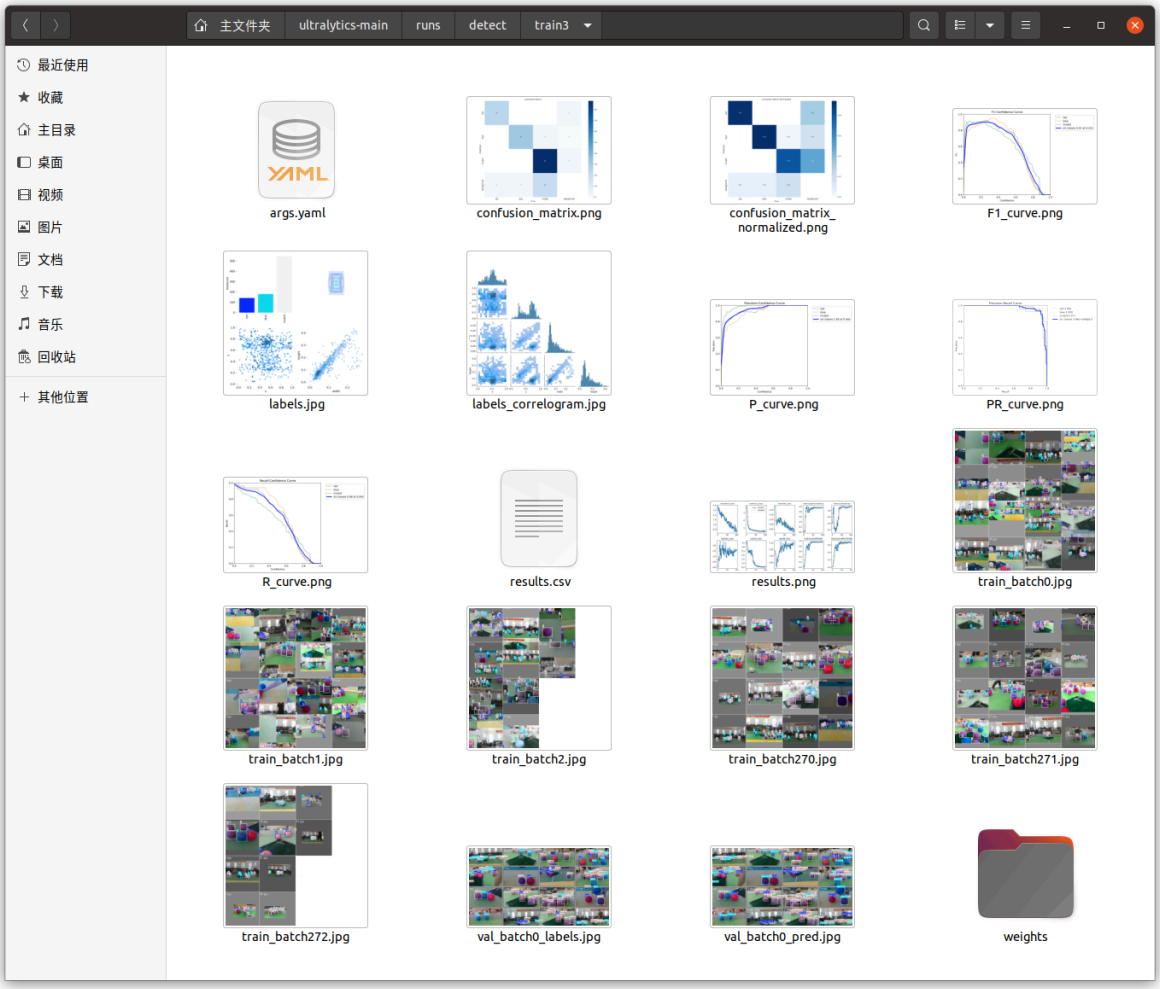
图片大小：640

单轮投入数量：40

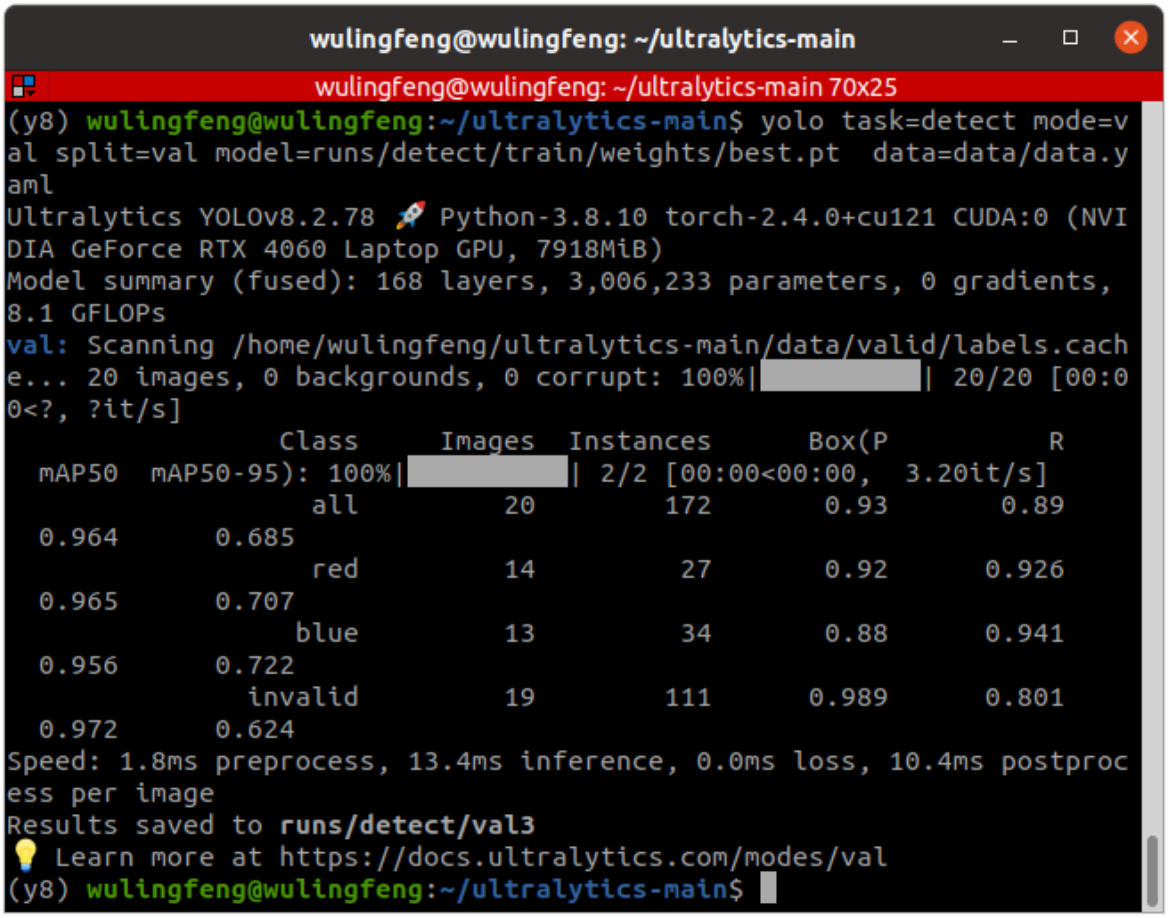
设备：gpu0

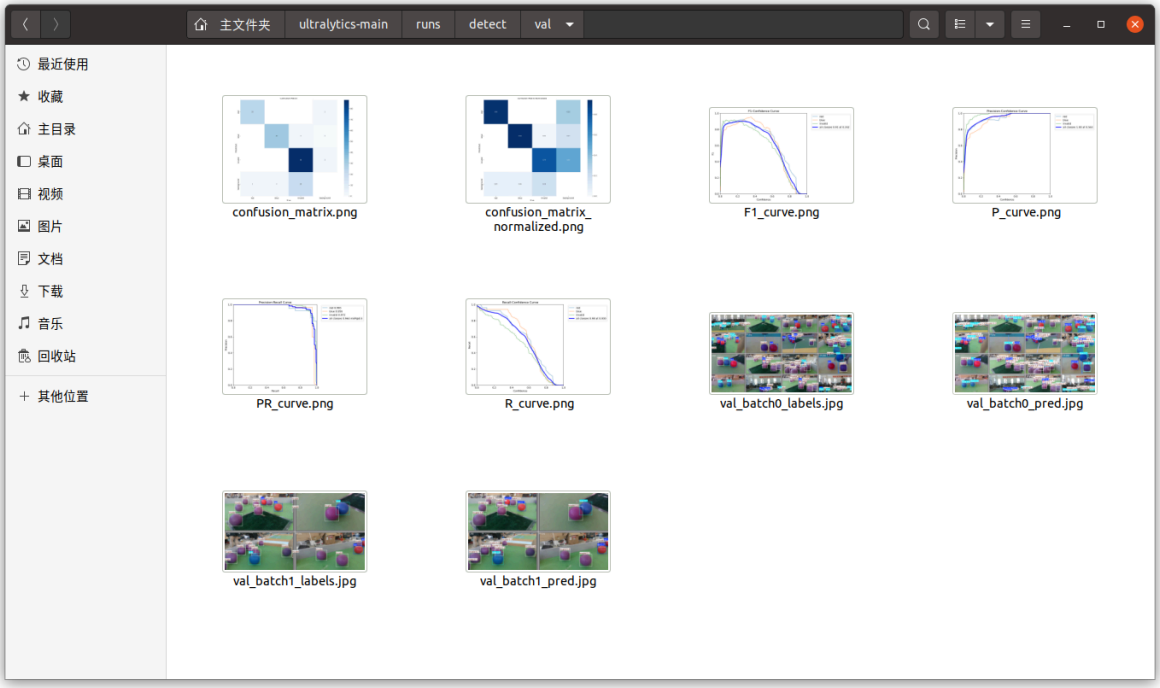


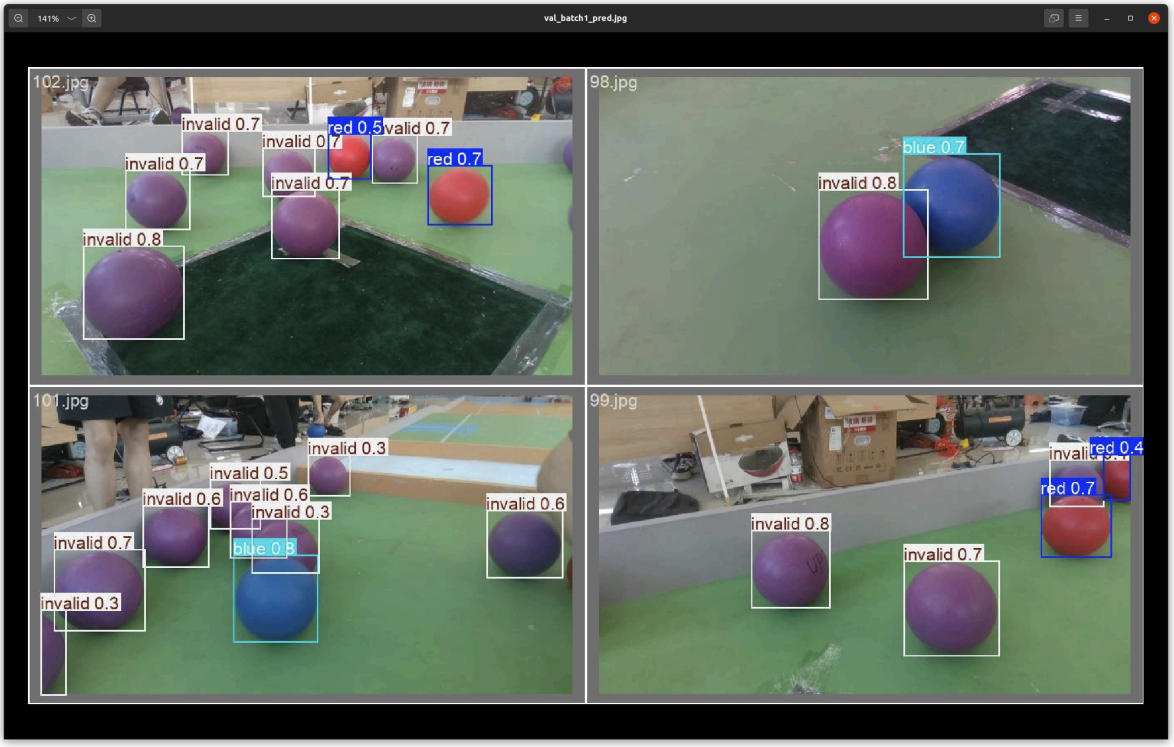
训练结果


主文件夹
ultralytics-main
runs
detect
train3
最近使用
收藏
主目录
桌面
视频
图片
文档
下载
音乐
回收站
其他位置
args.yaml
confusion_matrix.png
confusion_matrix_normalized.png
F1_curve.png
labels.jpg
labels_correlogram.jpg
P_curve.png
PR_curve.png
R_curve.png
results.csv
results.png
train_batch0.jpg
train_batch1.jpg
train_batch2.jpg
train_batch270.jpg
train_batch271.jpg
train_batch272.jpg
val_batch0_labels.jpg
val_batch0_pred.jpg
weights

模型验证


wulingfeng@wulingfeng: ~/ultralytics-main
wulingfeng@wulingfeng: ~/ultralytics-main 70x25
(y8) wulingfeng@wulingfeng:~/ultralytics-main$ yolo task=detect mode=val split=val model=runs/detect/train/weights/best.pt data=data/data.yaml
Ultralytics YOLOv8.2.78 🚀 Python-3.8.10 torch-2.4.0+cu121 CUDA:0 (NVIDIA GeForce RTX 4060 Laptop GPU, 7918MiB)
Model summary (fused): 168 layers, 3,006,233 parameters, 0 gradients, 8.1 GFLOPs
val: Scanning /home/wulingfeng/ultralytics-main/data/valid/labels.cache... 20 images, 0 backgrounds, 0 corrupt: 100%| | 20/20 [00:00<?, ?it/s]
Class Images Instances Box(P R
mAP50 mAP50-95): 100%| | 2/2 [00:00<00:00, 3.20it/s]
all 20 172 0.93 0.89
0.964 0.685
red 14 27 0.92 0.926
0.965 0.707
blue 13 34 0.88 0.941
0.956 0.722
invalid 19 111 0.989 0.801
0.972 0.624
Speed: 1.8ms preprocess, 13.4ms inference, 0.0ms loss, 10.4ms postprocess per image
Results saved to runs/detect/val3
Learn more at https://docs.ultralytics.com/modes/val
(y8) wulingfeng@wulingfeng:~/ultralytics-main$


主文件夹
ultralytics-main
runs
detect
val
最近使用
收藏
主目录
桌面
视频
图片
文档
下载
音乐
回收站
其他位置
confusion_matrix.png
confusion_matrix_normalized.png
F1_curve.png
P_curve.png
PR_curve.png
R_curve.png
val_batch0_labels.jpg
val_batch0_pred.jpg
val_batch1_labels.jpg
val_batch1_pred.jpg


141%
val_batch1_pred.jpg
102.jpg
invalid 0.7
red 0.5
invalid 0.7
invalid 0.7
red 0.7
invalid 0.7
invalid 0.8
98.jpg
blue 0.7
invalid 0.8
101.jpg
invalid 0.3
invalid 0.5
invalid 0.6
invalid 0.6
invalid 0.3
invalid 0.6
invalid 0.7
blue 0.8
invalid 0.3
99.jpg
red 0.4
red 0.7
invalid 0.8
invalid 0.7