

用YOLOv10训练图片

1

创建python虚拟环境

激活虚拟环境

```
python -m venv venv  
call venv\Scripts\activate
```

2

安装相关依赖包和yolov10

```
pip install supervision labelme labelme2yolo huggingface_hub google_cloud_audit_log  
pip install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cu118  
pip install git+https://github.com/THU-MIG/yolov10.git
```

3

下载模型文件，[这里选择yolov10n.pt](#)

训练速度快，模型小。

4

使用roboflow标注图片，使用yolov8格式，解压好放进11文件夹中

5

修改data.yaml文件

将其中test, train, valid改为绝对路径

在本人电脑上为

```
train: E:/cyt files/P4/11/train/images
val: E:/cyt files/P4/11/valid/images
test: E:/cyt files/P4/11/test/images
```

6

命令行输入

```
yolo detect train data=11/data.yaml model=yolov10n.pt epochs=30 batch=8 imgsz=640
```

训练完毕

```
optimizer stripped from runs\detect\train\weights\best.pt, 5.8MB
Validating runs\detect\train\weights\best.pt...
Ultralytics YOLOv8.2.79 🚀 Python-3.9.13 torch-2.4.0+cpu CPU (AMD Ryzen 5 3550H with Radeon Vega Mobile Gfx)
YOLOv10n summary (fused): 285 layers, 2,695,586 parameters, 0 gradients, 8.2 GFLOPs

```

Class	Images	Instances	Box(P	R	mAP50	mAP50-95)
all	22	226	0.853	0.831	0.909	0.674
blue	15	60	0.879	0.847	0.928	0.705
invalid	21	126	0.884	0.847	0.933	0.698
red	13	40	0.797	0.8	0.866	0.618

```
Speed: 2.0ms preprocess, 141.8ms inference, 0.0ms loss, 0.0ms postprocess per image
Results saved to runs\detect\train
💡 Learn more at https://docs.ultralytics.com/modes/train
```

保存在runs\detect\train中