

# DATASETS



(a) Color



(b) Cut



(c) Fold



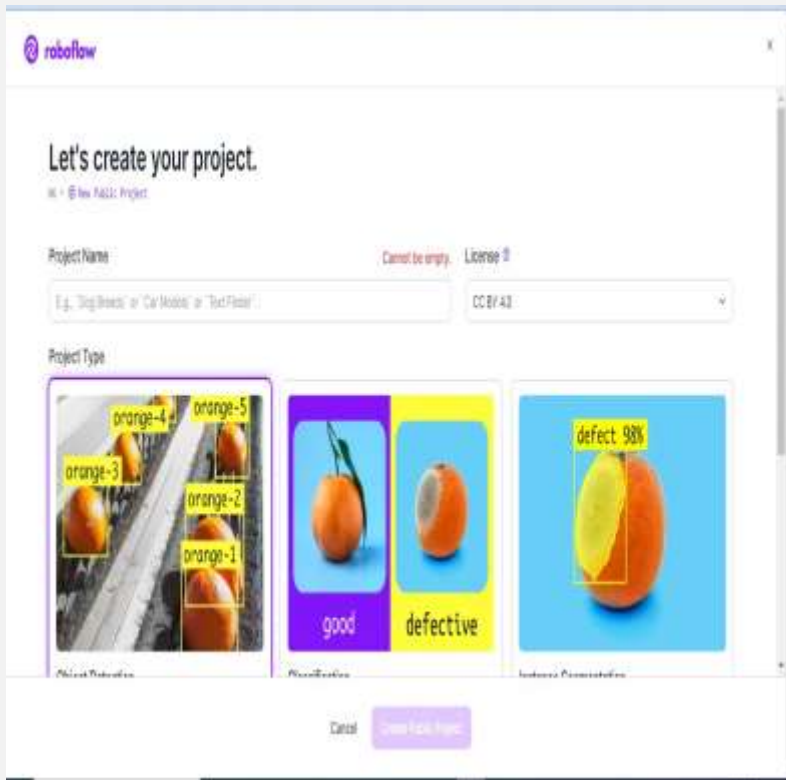
(d) Glue



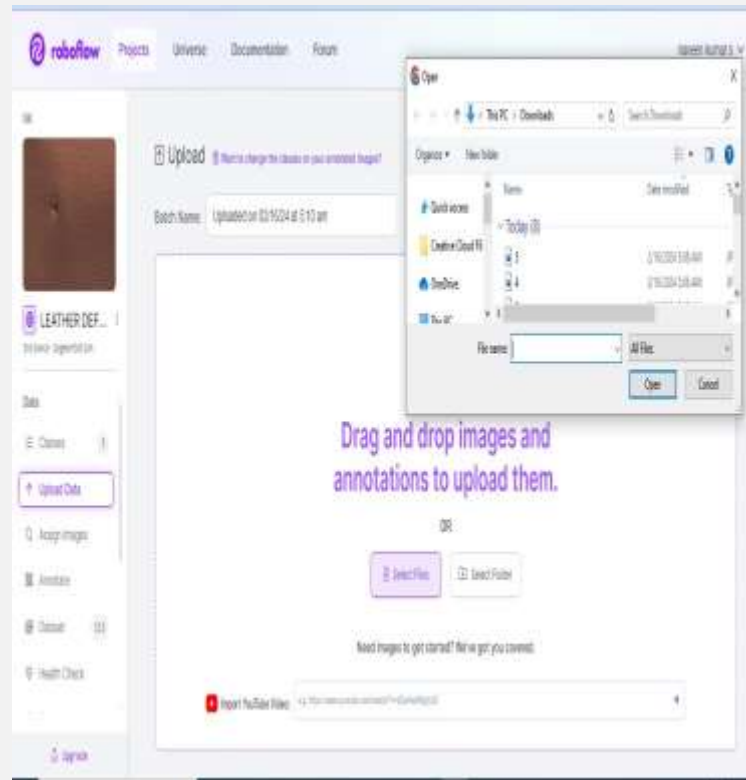
(e) Poke

# SIMULATION

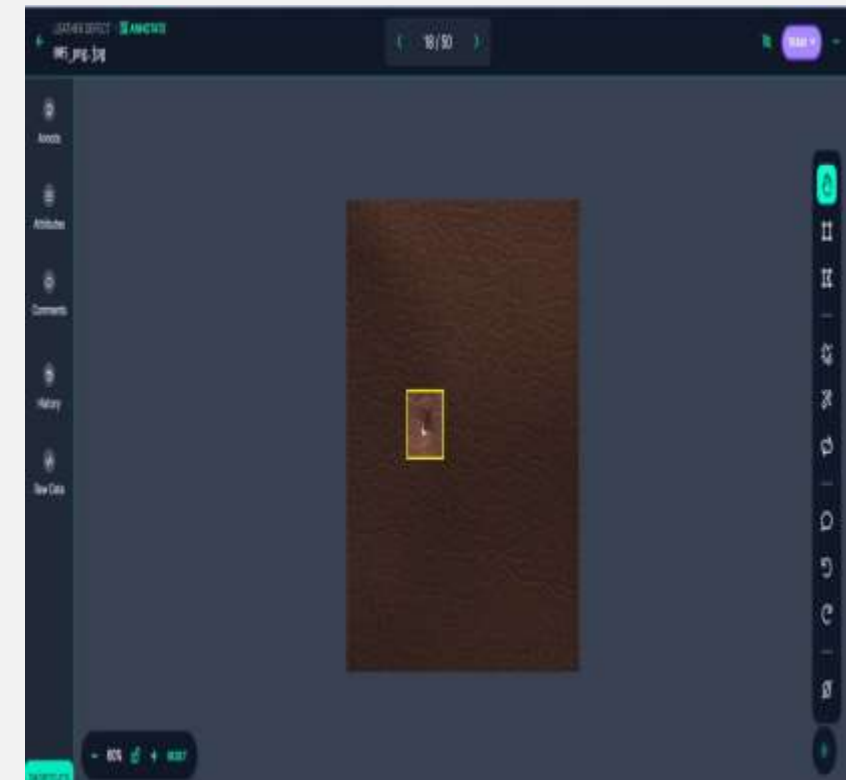
1.Create project on roboflow



2.Upload sample images

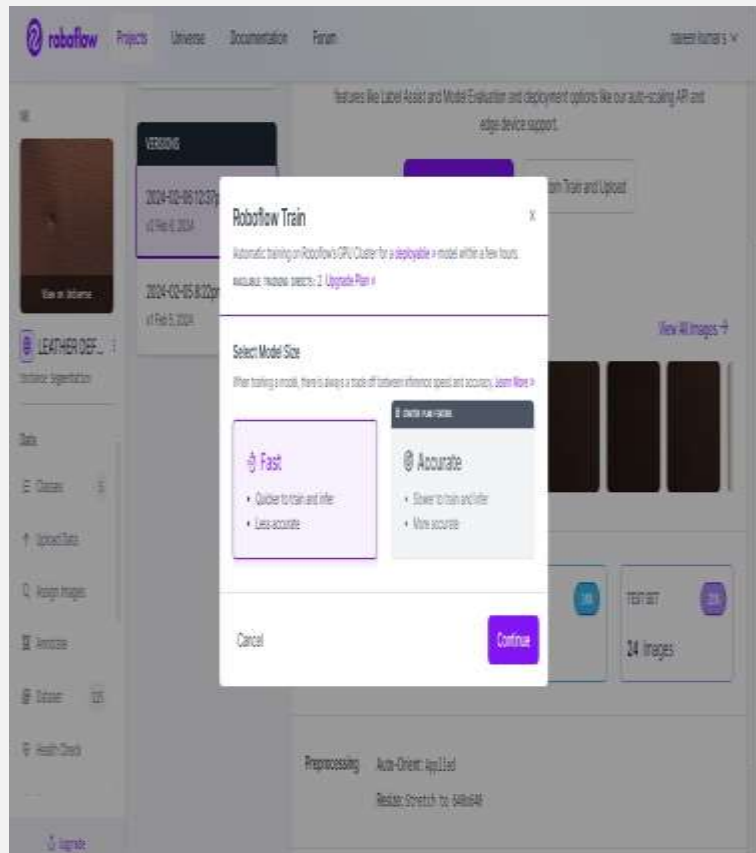


3.Annotate the sample images

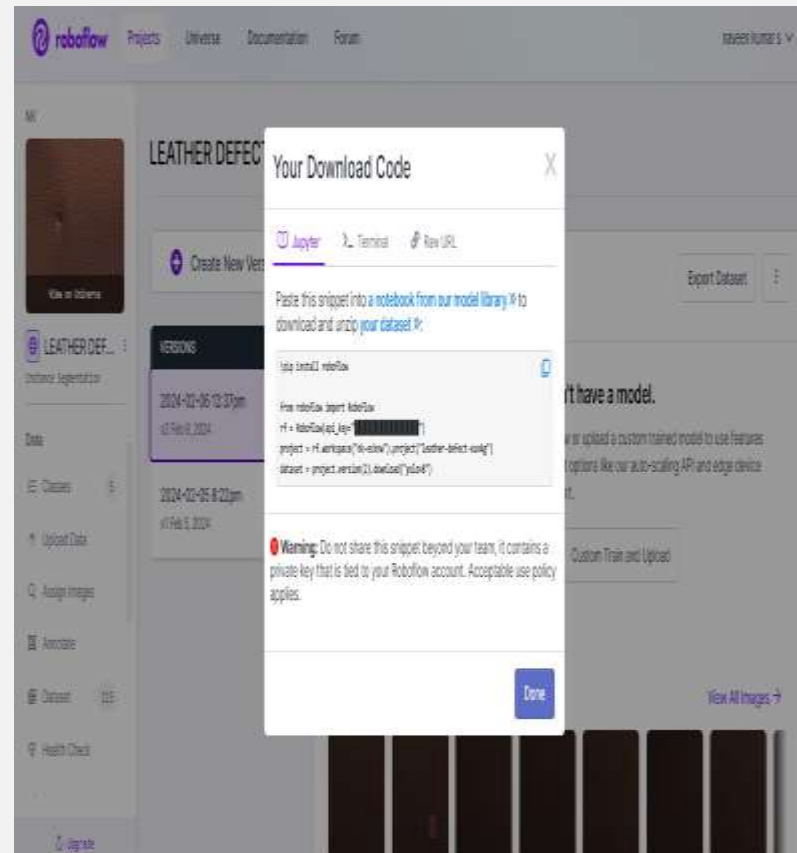


# SIMULATION

## 4. Train the dataset model



## 5. Export Dataset

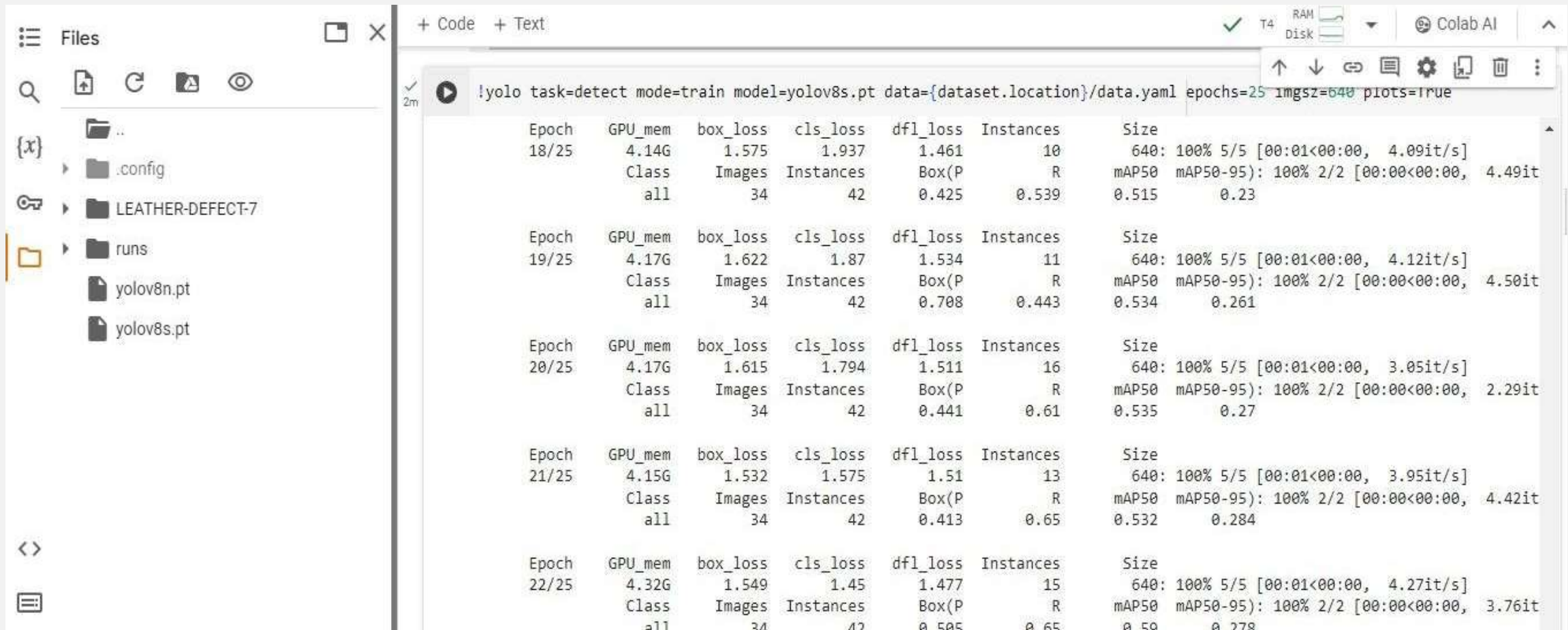


## 6. Extract dataset



# SIMULATION

## 7.Processing Model



The screenshot shows a Google Colab environment. On the left is a file explorer with the following structure:

- Files
  - ..
  - .config
  - LEATHER-DEFECT-7
    - runs
      - yolov8n.pt
      - yolov8s.pt

On the right is a terminal window with the command:

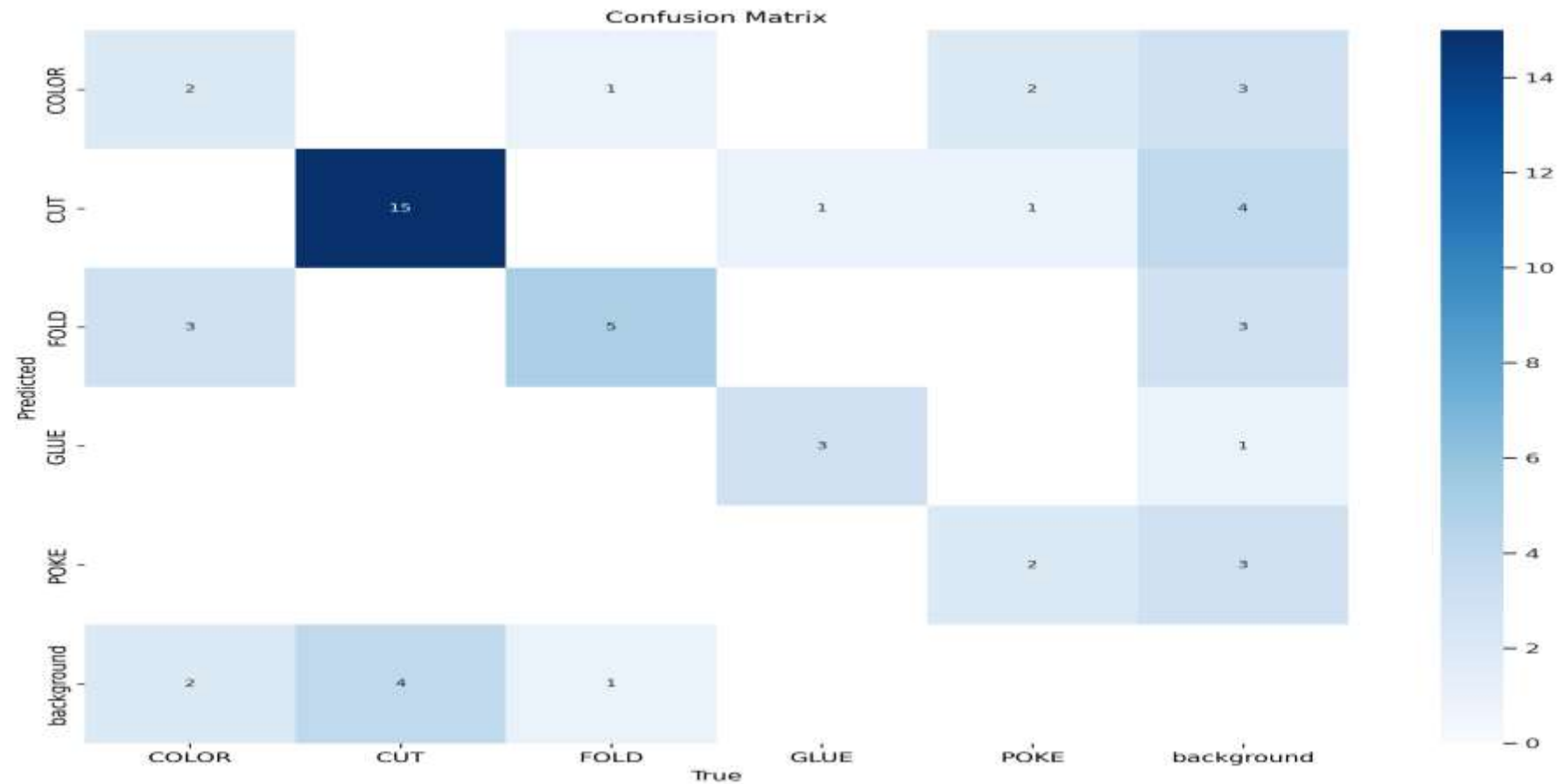
```
!yolo task=detect mode=train model=yolov8s.pt data={dataset.location}/data.yaml epochs=25 imgsz=640 plots=true
```

The terminal output shows training metrics for epochs 18 through 22. The metrics are as follows:

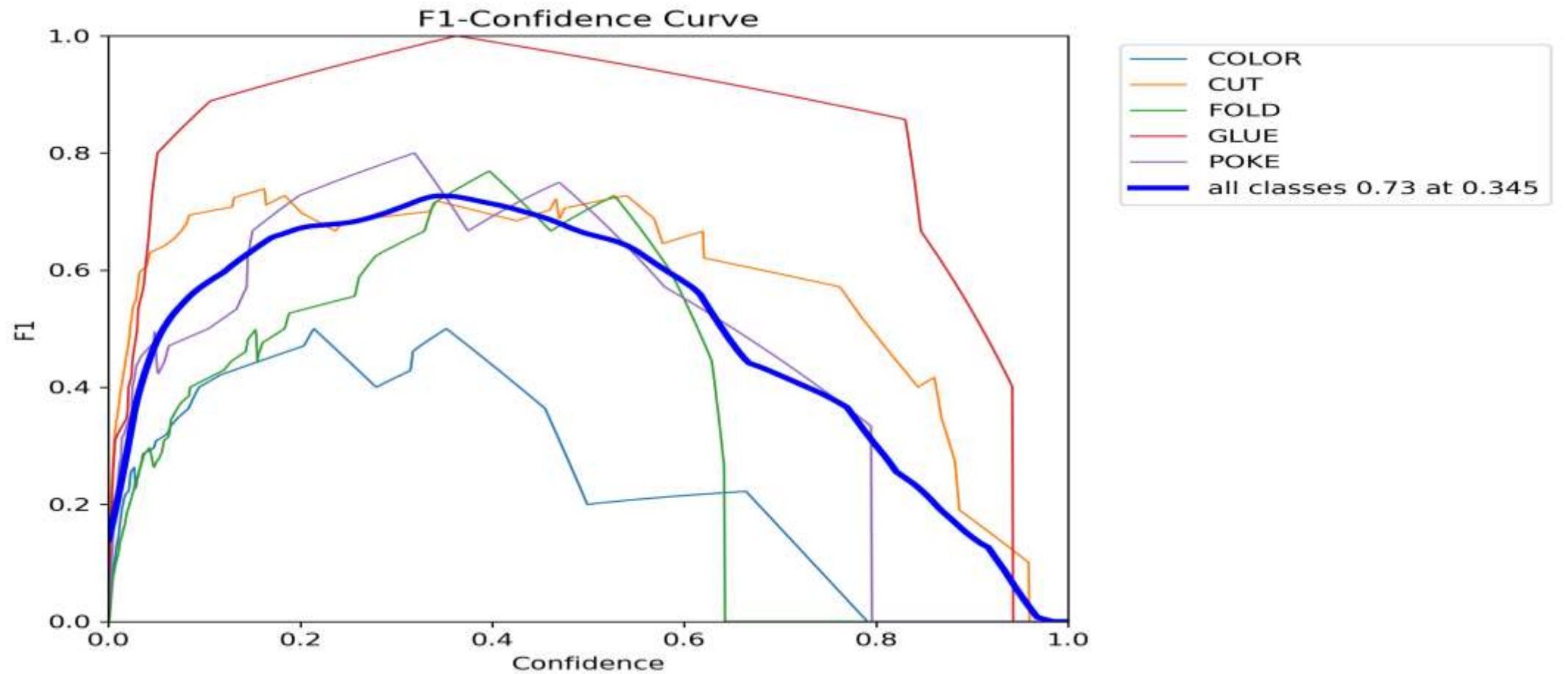
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
18/25	4.14G	1.575	1.937	1.461	10	640: 100% 5/5 [00:01<00:00, 4.09it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 4.49it
	all	34	42	0.425	0.539	0.515 0.23
19/25	4.17G	1.622	1.87	1.534	11	640: 100% 5/5 [00:01<00:00, 4.12it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 4.50it
	all	34	42	0.708	0.443	0.534 0.261
20/25	4.17G	1.615	1.794	1.511	16	640: 100% 5/5 [00:01<00:00, 3.05it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 2.29it
	all	34	42	0.441	0.61	0.535 0.27
21/25	4.15G	1.532	1.575	1.51	13	640: 100% 5/5 [00:01<00:00, 3.95it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 4.42it
	all	34	42	0.413	0.65	0.532 0.284
22/25	4.32G	1.549	1.45	1.477	15	640: 100% 5/5 [00:01<00:00, 4.27it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 3.76it
	all	34	42	0.505	0.65	0.50 0.278

# SIMULATION RESULTS

Confusion matrix

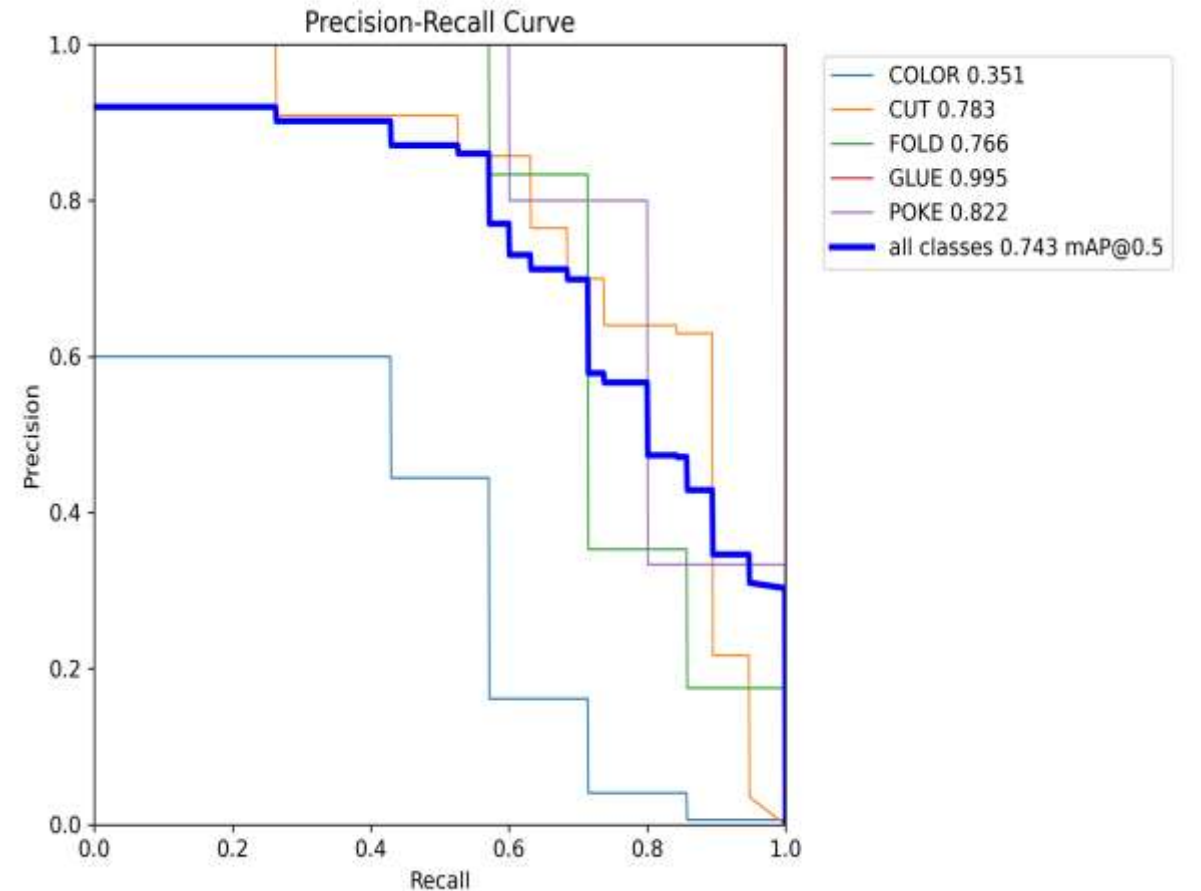
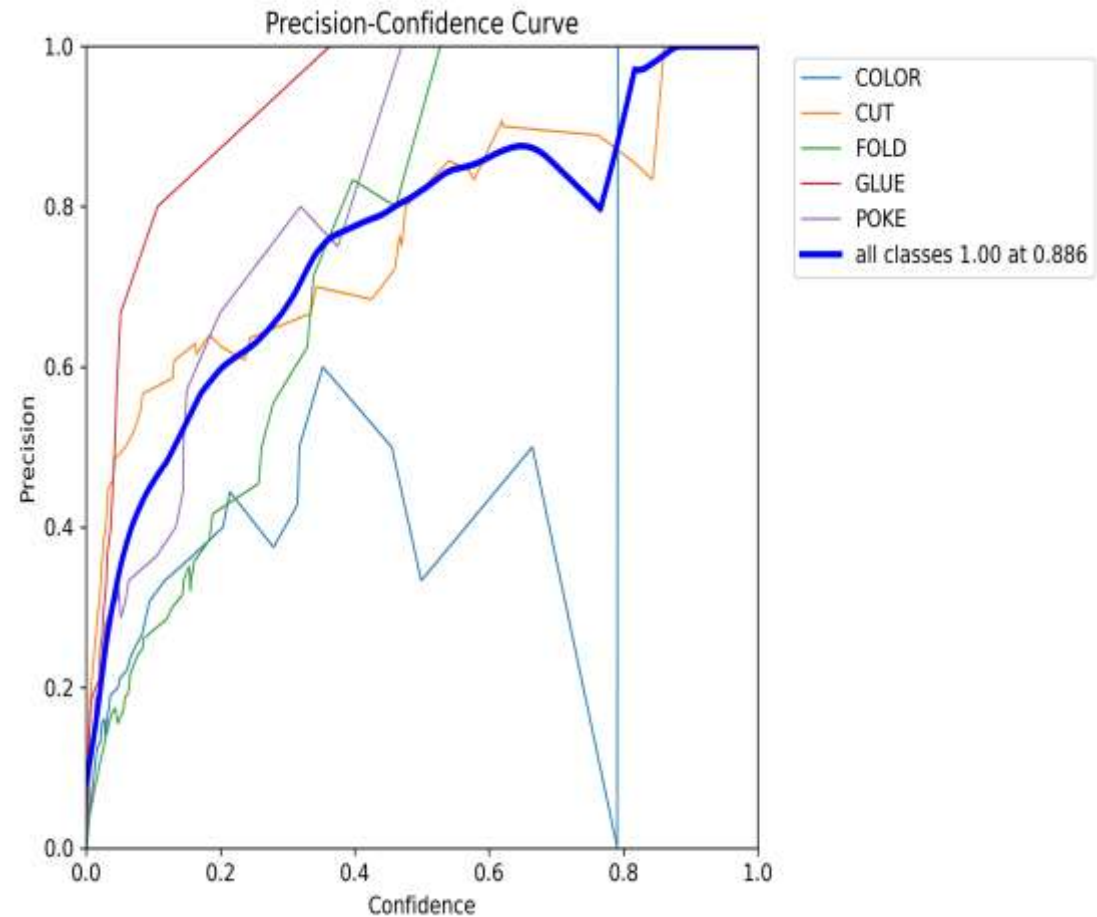


# SIMULATION RESULTS



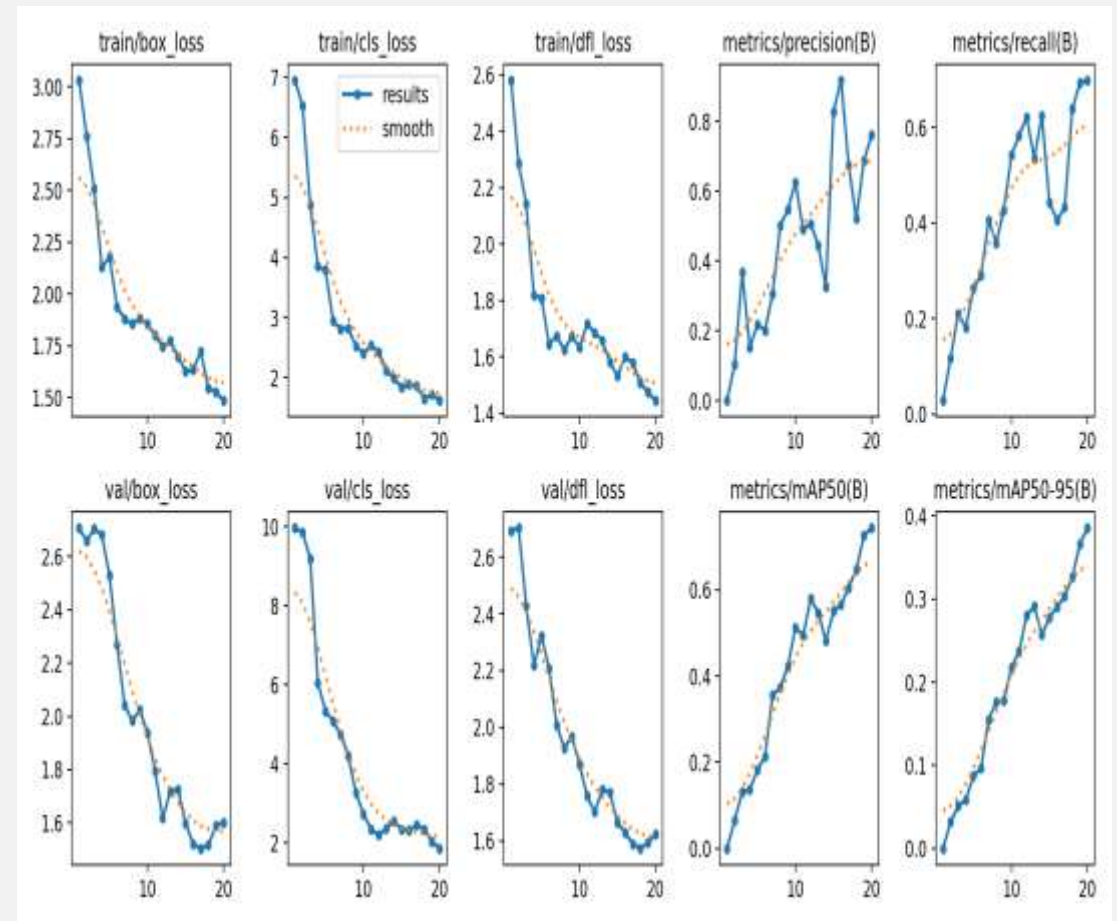
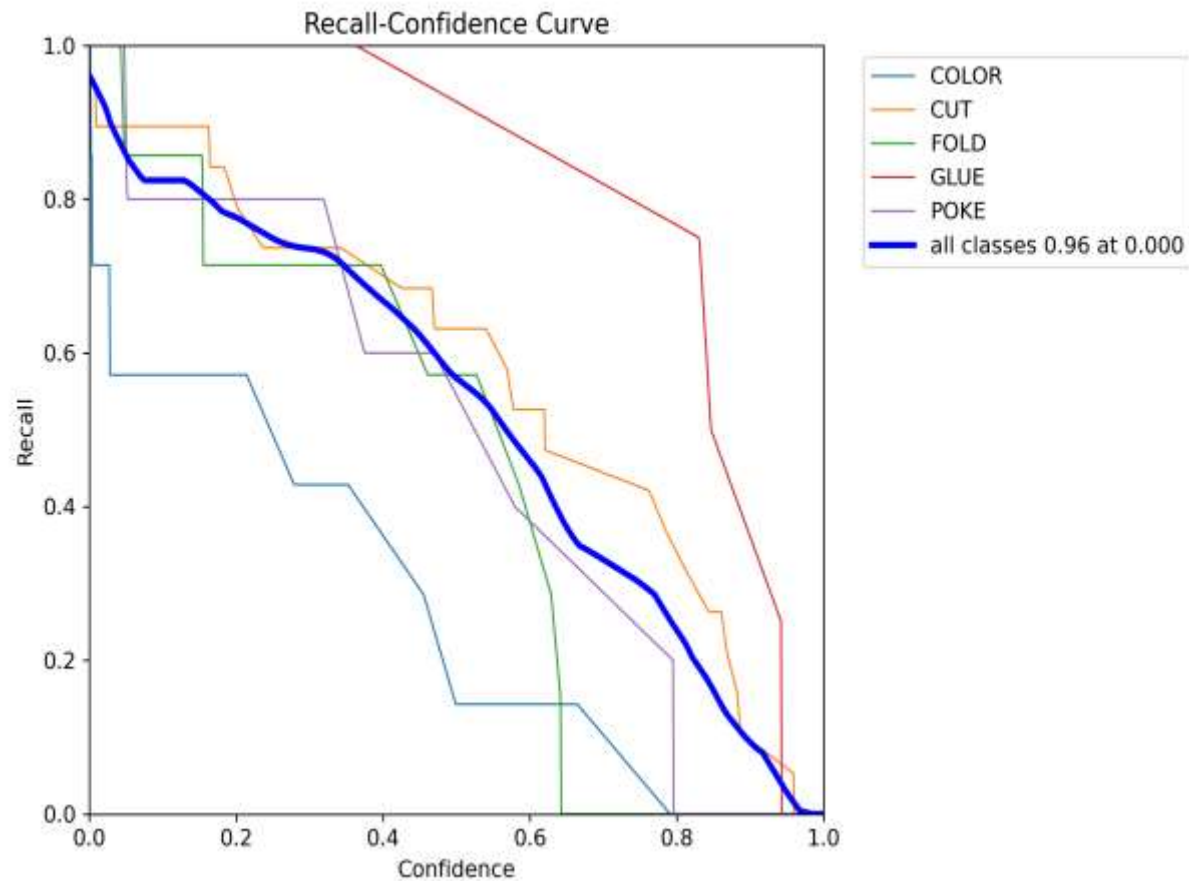


# SIMULATION RESULTS



# SIMULATION RESULTS

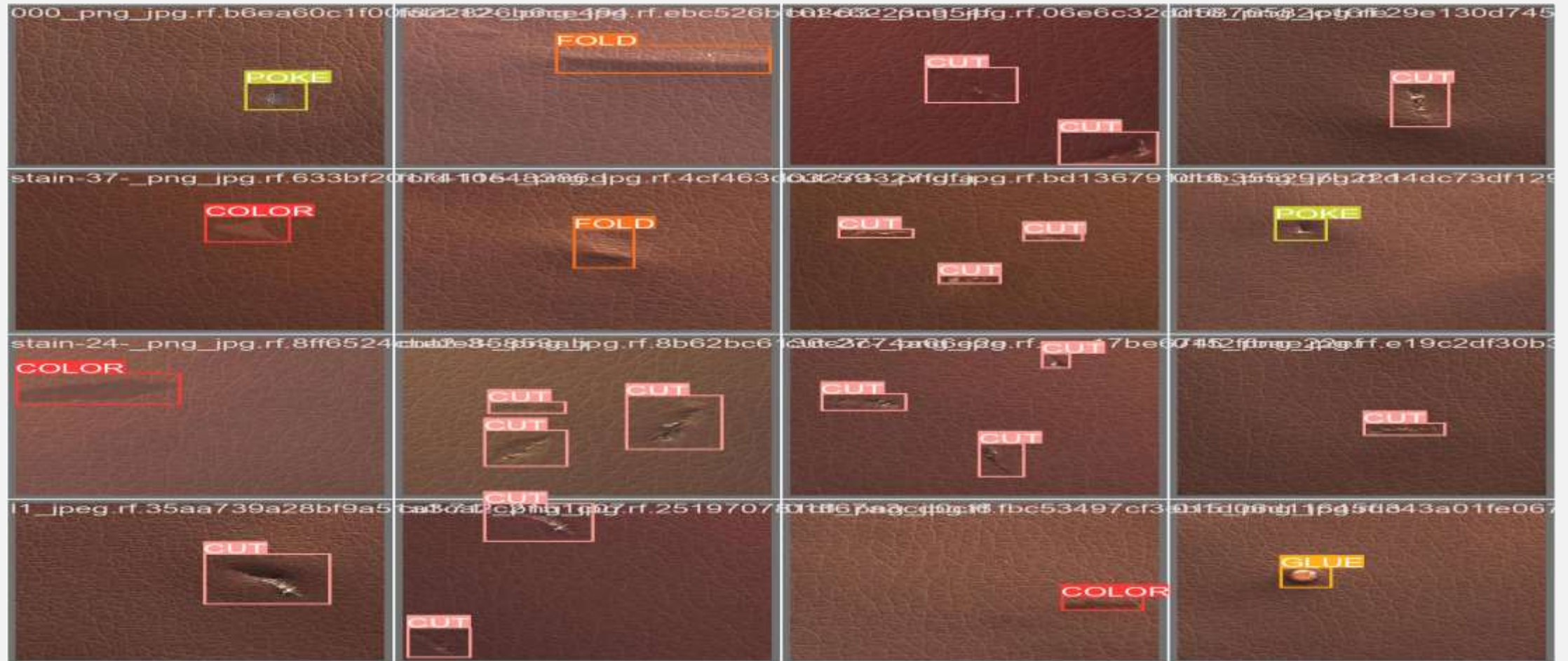
## Result





# SIMULATION RESULTS

Trained batch



# FINAL OUTPUT

File Edit View Insert Runtime Tools Help Cannot save changes

Files

- LEATHER-DEFECT-7
  - test
    - images
    - labels
  - train
  - valid
  - README.dataset.txt
  - README.roboflow.txt
  - data.yaml
- runs
  - yolov8n.pt
  - yolov8s-seg.pt

Disk 48.97 GB available

+ Code + Text Copy to Drive

```
%cd {HOME}
Image(filename=f'{HOME}/runs/segment/train/val_batch0_pred.jpg', width=600)

/content
```



✓ 17s completed at 11:31 AM