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**FA21-BCS-069**

**8A**

**TICS-II**

## **YOLOv11 ASSIGNMENT**

```
✓ YOLO11-CUSTOM-TRAINING
  ✓ dataset
    ✓ images
      > train
      > val
      > labels
  ✓ runs\detect
    > predict
    > predict2
    > predict3
    ✓ predict4
      🖼️ pexels-ali-pazani-3061814...
    > predict5
    > train
    > train2
    > val
  > yolo-env
  ! coco128.yaml
  📄 setup_dataset.py
  📄 yolo11_training.py
  📄 yolo11n.pt
```

yolo11\_training .py:

```

from ultralytics import YOLO

# Load the YOLO11 model (small version for fast training)
model = YOLO("yolo11n.pt") # Change to 'yolo11m.pt' if you want a bigger
model

# Train the model
results = model.train(
    data="D:/YOLO11-Custom-Training/coco128.yaml", # Corrected path for
Windows
    epochs=50, # Number of training iterations
    imgsz=640 # Image size
)

# Save model
model.export(format="onnx") # Export for deployment

```

## Coco128.yaml:

```

train: D:/YOLO11-Custom-Training/dataset/images/train
val: D:/YOLO11-Custom-Training/dataset/images/val

# Classes
nc: 7 # Total number of classes
names:
  0: gadi
  1: piyari
  2: hamrah
  3: mobile
  4: watch
  5: bili
  6: khuto

```

## OUTPUT:

### Training Results:

```
all      17      31      0.765      0.391      0.479      0.324

Epoch    GPU_mem  box_loss  cls_loss  dfl_loss  Instances  Size
50/50      0G      0.3851    1.177    0.9386     12        640: 100%|██████████| 6/6 [
      Class  Images  Instances  Box(P      R      mAP50  mAP50-95): 100%|██████████|
      all      17      31      0.774    0.392    0.479    0.325

50 epochs completed in 1.517 hours.
Optimizer stripped from runs\detect\train2\weights\last.pt, 5.5MB
Optimizer stripped from runs\detect\train2\weights\best.pt, 5.5MB

YOLO11n summary (fused): 100 layers, 2,583,517 parameters, 0 gradients, 6.3 GFLOPs
      Class      Images  Instances  Box(P      R      mAP50  mAP50-95): 100%|██████████|
      gadi         1         2      0.446    0.5      0.495    0.297
      piyari       12        12      0.719    0.642    0.69     0.514
      hamrah        3         8      0.184    0.143    0.289    0.186
      mobile        6         6      0.654    0.667    0.6      0.478
      watch         3         3      0.662    0.665    0.665    0.273

Speed: 7.3ms preprocess, 317.1ms inference, 0.0ms loss, 30.0ms postprocess per image
Results saved to runs\detect\train2
Ultralytics 8.3.86 🚀 Python-3.12.3 torch-2.6.0+cpu CPU (Intel Core(TM) i7-6600U 2.60GHz)
YOLO11n summary (fused): 100 layers, 2,583,517 parameters, 0 gradients, 6.3 GFLOPs

PyTorch: starting from 'runs\detect\train2\weights\best.pt' with input shape (1, 3, 640, 640) BCHW and
output shape(s) (1, 11, 8400) (5.2 MB)
```

Activate Win

### Prediction:

piyari 0.99

