Import necessary libraries

```
In [9]: import torch
    from ultralytics import YOLO
    import numpy as np
    import random
    import glob
    import shutil
    import json
    import yaml
    from pprint import pprint
    from pathlib import Path
```

Check CUDA availability

```
In [10]: # Check if CUDA is available
    cuda_available = torch.cuda.is_available()
    print("CUDA Available:", cuda_available)

# If CUDA is available, print details
    if cuda_available:
        DEVICE = torch.cuda.current_device()
        device_name = torch.cuda.get_device_name(DEVICE)
        print(f"Device Name: {device_name}")

else:
        print("CUDA is not available. Please check your GPU drivers and CUDA ins
```

Global Configurations

Device Name: NVIDIA GeForce RTX 5070 Ti

```
In [16]: # Set the random seed for reproducibility
RANDOM_SEED = 300188

random.seed(RANDOM_SEED)
np.random.seed(RANDOM_SEED)
torch.manual_seed(RANDOM_SEED)
torch.cuda.manual_seed_all(RANDOM_SEED)

# Dataset directory
DATASET_DIR = "datasets/Vehicle-License-Plate-Detection"
# YAML config for dataset splits and class names
DATA_YAML = os.path.join(DATASET_DIR, "data.yaml")

# Unique project identifier
PROJECT_NAME = "vehicle-license-plate-detection"
# Which version of the dataset to use
```

```
DATASET_VERSION = "near-complete"

# Tag for this set of hyperparameters / training settings

EXPERIMENT_NAME = "imgsz1280"

RUN_DIR = os.path.join(PROJECT_NAME, DATASET_VERSION, EXPERIMENT_NAME)

# Base folder for saving evaluation outputs

EVALUATION_DIR = os.path.join(RUN_DIR, "evaluation")

# Base folder for saving model architecture & hyperparameters

ARCHITECTURE_DIR = os.path.join(RUN_DIR, "architecture")

# Location of the best-performing weights file of the trained model

TRAINED_MODEL_WEIGHTS = os.path.join(RUN_DIR, "weights/best.onnx")
```

Dataset Splitting

```
In [17]: # —— CONFIG -
         TRAIN IMG DIR = os.path.join(DATASET DIR, "train", "images")
         TRAIN LBL DIR = os.path.join(DATASET DIR, "train", "labels")
         VAL_IMG_DIR = os.path.join(DATASET_DIR, "valid", "images")
VAL_LBL_DIR = os.path.join(DATASET_DIR, "valid", "labels")
         TEST_IMG_DIR = os.path.join(DATASET_DIR, "test", "images")
         TEST_LBL_DIR = os.path.join(DATASET_DIR, "test", "labels")
         # Split ratios
         TRAIN RATIO = 7
         VAL RATIO = 1
         # (we leave TEST untouched, so its ratio of 2/10 is implicit)
         RANDOM SEED = 42
         random.seed(RANDOM SEED)
         # 📶 Ensure split directories exist
         for d in (TRAIN IMG DIR, TRAIN LBL DIR, VAL IMG DIR, VAL LBL DIR):
             os.makedirs(d, exist ok=True)
         # 🙎 Gather current train & valid images
         train imgs before = glob.glob(os.path.join(TRAIN IMG DIR, "*.jpg")) + \
                              glob.glob(os.path.join(TRAIN_IMG_DIR, "*.png"))
                                                                     "*.jpg")) + \
         val imgs before = glob.glob(os.path.join(VAL IMG DIR,
                              glob.glob(os.path.join(VAL IMG DIR,
                                                                     "*.png"))
         # 🗿 Compute how many should be in valid after split
         total train valid = len(train imgs before) + len(val imgs before)
         desired val count = int(total train valid * VAL RATIO / (TRAIN RATIO + VAL F
         n val to move = max(0, desired val count - len(val imgs before))
         # 🗿 Shuffle and pick from train
         random.shuffle(train imgs before)
         val selection = train imgs before[:n val to move]
         # 5 Move images & corresponding labels
         for img path in val selection:
              fname
                    = os.path.basename(img path)
```

```
stem = os.path.splitext(fname)[0]
            lbl src = os.path.join(TRAIN_LBL_DIR, stem + ".txt")
            # image → valid/images
            shutil.move(img path, os.path.join(VAL IMG DIR, fname))
            # label → valid/labels (if exists)
            if os.path.exists(lbl src):
                 shutil.move(lbl src, os.path.join(VAL LBL DIR, stem + ".txt"))
        # 6 Report final counts
        final train count = len(glob.glob(os.path.join(TRAIN IMG DIR, "*.jpg"))) + \
                             len(glob.glob(os.path.join(TRAIN IMG DIR,
                                                                        "*.png")))
                                                                        "*.jpg"))) + \
                          = len(glob.glob(os.path.join(VAL IMG DIR,
        final val count
                                                                        "*.png")))
                             len(glob.glob(os.path.join(VAL IMG DIR,
        final test count = len(glob.glob(os.path.join(TEST IMG DIR, "*.jpg"))) + \
                             len(glob.glob(os.path.join(TEST IMG DIR, "*.png")))
        print("Split complete:")
        print(f" train: {final train count} images")
        print(f" valid: {final val count} images")
        print(f" test : {final test count} images")
       Split complete:
         train: 1279 images
         valid: 182 images
         test : 253 images
In [ ]: # —— CONFIG —
        TRAIN IMG DIR = os.path.join(DATASET DIR, "train", "images")
        TRAIN_LBL_DIR = os.path.join(DATASET_DIR, "valid", "images")
VAL_IMG_DIR = os.path.join(DATASET_DIR, "valid", "labels")
        TEST IMG DIR = os.path.join(DATASET DIR, "test", "images")
        TEST_LBL_DIR = os.path.join(DATASET_DIR, "test", "labels")
        # Split ratios (train:7, val:2, test:1) out of total parts
        VAL RATIO = 2
        # Ensure reproducibility
        random.seed(RANDOM SEED)
        # 1 Ensure all split directories exist
        for d in (TRAIN IMG DIR, TRAIN LBL DIR, VAL IMG DIR, VAL LBL DIR, TEST IMG D
            os.makedirs(d, exist ok=True)
        # 🙎 Count current images in each split
        train imgs before = glob.glob(os.path.join(TRAIN IMG DIR, "*.jpg")) + glob.g
                                                                    "*.jpg")) + glob.g
        val imgs before = glob.glob(os.path.join(VAL IMG DIR,
        test imgs before = glob.glob(os.path.join(TEST IMG DIR,
                                                                    "*.jpg")) + glob.c
        total images = len(train imgs before) + len(val imgs before) + len(test imgs
        # Desired count for validation based on overall ratio
        desired val = int(total images * VAL RATIO / 10)
        # 3 Shuffle remaining train images
```

```
all train imgs = train imgs before.copy()
 random.shuffle(all train imgs)
 # 🗿 Determine how many to move into validation
 n val to move = max(0, desired val - len(val imgs before))
 val to move = all train imgs[:n val to move]
 # 5 Move selected images and corresponding labels
 for img path in val to move:
    fname = os.path.basename(img path)
     stem = os.path.splitext(fname)[0]
     lbl src = os.path.join(TRAIN LBL DIR, stem + ".txt")
     # Move image file to validation folder
     shutil.move(img path, os.path.join(VAL IMG DIR, fname))
     # Move label file if it exists
     if os.path.exists(lbl src):
         shutil.move(lbl src, os.path.join(VAL_LBL_DIR, stem + ".txt"))
 # 6 Report final counts
 final train count = len(glob.glob(os.path.join(TRAIN IMG DIR, "*.jpg"))) + l
 final val count = len(glob.glob(os.path.join(VAL IMG DIR, "*.jpg"))) + l
 final test count = len(glob.glob(os.path.join(TEST IMG DIR, "*.jpg"))) + l
 print("Split complete:")
 print(f" train: {final train count} images")
 print(f" valid: {final val count} images")
 print(f" test: {final test count} images")
Split complete:
 train: 1290 images
  valid: 171 images
 test: 253 images
```

Ensure full path dataset in data.yaml

```
new path = Path(orig)
     # Convert to forward-slash style
     path str = new path.as posix()
     # Ensure drive letter is uppercase (e.g. 'c:/...' → 'C:/...')
     if len(path str) >= 2 and path str[1] == ':' and path str[0].islower():
         path str = path str[0].upper() + path str[1:]
     config[split] = path str
 print("\nUpdated paths:")
 pprint({k: config.get(k) for k in ("train", "val", "test")})
 # 3 Overwrite data.yaml in place
 with open(DATA YAML, "w") as f:
     yaml.dump(config, f, sort keys=False)
 print(f"\nModified YAML saved directly to '{DATA YAML}'")
Original paths:
{'test': '../test/images', 'train': '../train/images', 'val': '../valid/imag
es'}
Updated paths:
{'test': 'C:/Users/herma/dev/IS/yolo/datasets/Vehicle-License-Plate-Detectio
n/test/images',
 'train': 'C:/Users/herma/dev/IS/yolo/datasets/Vehicle-License-Plate-Detecti
on/train/images',
 'val': 'C:/Users/herma/dev/IS/yolo/datasets/Vehicle-License-Plate-Detectio
n/valid/images'}
Modified YAML saved directly to 'datasets/Vehicle-License-Plate-Detection\da
ta.yaml'
```

Hyperparameter Tuning

```
In [ ]: NUMBER OF EPOCHS = 500
         IMAGE SIZE = 1280
         BATCH SIZE = 16
         PATIENCE = 50
         NUM OF WORKERS = 8
In [14]: HYPERPARAMS = {
             "project": PROJECT NAME, # Name of the project
             "name": os.path.join(DATASET VERSION, EXPERIMENT NAME), # Name of the t
             "data": DATA YAML, # Path to the dataset configuration file
             "epochs": NUMBER OF EPOCHS, # Number of epochs to train for
             "imgsz": IMAGE SIZE, # Image size for training (640x640 pixels)
             "batch": BATCH SIZE, # Batch size
             "device": DEVICE, # Use GPU if available, otherwise set to -1 for CPU,
             "patience": PATIENCE, # Number of epochs with no improvement after whic
             "cache": "disk", # Cache images for faster training
             "workers": NUM OF WORKERS, # Number of data loading workers
```

Model Training

New https://pypi.org/project/ultralytics/8.3.133 available Update with 'pip install -U ultralytics'

Ultralytics 8.3.131 Python-3.13.3 torch-2.7.0+cu128 CUDA:0 (NVIDIA GeForce RTX 5070 Ti, 16303MiB)

engine\trainer: agnostic nms=False, amp=True, augment=False, auto augment=ra ndaugment, batch=16, bgr=0.0, box=7.5, cache=disk, cfg=None, classes=None, c lose mosaic=10, cls=0.5, conf=None, copy paste=0.0, copy paste mode=flip, co s lr=False, cutmix=0.0, data=datasets/Vehicle-License-Plate-Detection\data.y aml, degrees=0.0, deterministic=True, device=0, dfl=1.5, dnn=False, dropout= 0.0, dynamic=False, embed=None, epochs=500, erasing=0.4, exist ok=False, fli plr=0.5, flipud=0.0, format=torchscript, fraction=1.0, freeze=None, half=Fal se, hsv h=0.015, hsv s=0.7, hsv v=0.4, imqsz=1280, int8=False, iou=0.7, kera s=False, kobj=1.0, line width=None, lr0=0.01, lrf=0.01, mask ratio=4, max de t=300, mixup=0.0, mode=train, model=yolo pretrained/yolov8n.pt, momentum=0.9 37, mosaic=1.0, multi scale=False, name=imgsz1280, nbs=64, nms=False, opset= None, optimize=False, optimizer=auto, overlap mask=True, patience=50, perspe ctive=0.0, plots=True, pose=12.0, pretrained=True, profile=False, project=ve hicle-license-plate-detection, rect=False, resume=False, retina masks=False, save=True, save conf=False, save crop=False, save dir=vehicle-license-platedetection\near-complete\imgsz1280, save frames=False, save json=False, save period=-1, save txt=False, scale=0.5, seed=0, shear=0.0, show=False, show bo xes=True, show conf=True, show labels=True, simplify=True, single cls=False, source=None, split=val, stream buffer=False, task=detect, time=None, tracker =botsort.yaml, translate=0.1, val=True, verbose=True, vid stride=1, visualiz e=False, warmup bias lr=0.1, warmup epochs=3.0, warmup momentum=0.8, weight decay=0.0005, workers=8, workspace=None

Overriding model.yaml nc=80 with nc=2

	rom	n	params	module
arguments	-		46.4	
0 [3, 16, 3, 2]	-1	1	464	ultralytics.nn.modules.conv.Conv
1	- 1	1	4672	ultralytics.nn.modules.conv.Conv
[16, 32, 3, 2] 2	- 1	1	7360	ultralytics.nn.modules.block.C2f
[32, 32, 1, True] 3	-1	1	18560	ultralytics.nn.modules.conv.Conv
[32, 64, 3, 2]				•
4	- 1	2	49664	ultralytics.nn.modules.block.C2f
[64, 64, 2, True] 5	-1	1	73984	ultralytics.nn.modules.conv.Conv
[64, 128, 3, 2] 6	-1	2	197632	ultralytics.nn.modules.block.C2f
[128, 128, 2, True] 7	-1	1	295424	ultralytics.nn.modules.conv.Conv
[128, 256, 3, 2] 8	-1	1	460288	ultralytics.nn.modules.block.C2f
[256, 256, 1, True]				•
9	-1	1	164608	ultralytics.nn.modules.block.SPPF
[256, 256, 5] 10	-1	1	0	torch.nn.modules.upsampling.Upsample
[None, 2, 'nearest']		_		
11 [-1,	6]	1	0	ultralytics.nn.modules.conv.Concat
[1] 12 [384, 128, 1]	-1	1	148224	ultralytics.nn.modules.block.C2f

```
13
                                  0 torch.nn.modules.upsampling.Upsample
                    -1 1
[None, 2, 'nearest']
 14
               [-1, 4] 1
                                  0 ultralytics.nn.modules.conv.Concat
[1]
                        1
                              37248 ultralytics.nn.modules.block.C2f
 15
                    - 1
[192, 64, 1]
                    -1 1
                              36992 ultralytics.nn.modules.conv.Conv
 16
[64, 64, 3, 2]
                                  0 ultralytics.nn.modules.conv.Concat
17
              [-1, 12] 1
[1]
                    -1 1
 18
                             123648 ultralytics.nn.modules.block.C2f
[192, 128, 1]
                             147712 ultralytics.nn.modules.conv.Conv
19
                    -1 1
[128, 128, 3, 2]
                                  0 ultralytics.nn.modules.conv.Concat
 20
               [-1, 9] 1
[1]
 21
                    -1 1
                             493056 ultralytics.nn.modules.block.C2f
[384, 256, 1]
                             751702 ultralytics.nn.modules.head.Detect
          [15, 18, 21] 1
[2, [64, 128, 256]]
Model summary: 129 layers, 3,011,238 parameters, 3,011,222 gradients, 8.2 GF
L0Ps
Transferred 319/355 items from pretrained weights
Freezing layer 'model.22.dfl.conv.weight'
AMP: running Automatic Mixed Precision (AMP) checks...
AMP: checks passed
train: Fast image access (ping: 0.00.0 ms, read: 389.6389.2 MB/s, size: 29
7.7 KB)
train: Scanning C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-Plate-De
tection\train\labels.cache... 1279 images, 0 backgrounds, 0 corrupt: 100%|
| 1279/1279 [00:00<?, ?it/s]
train: Caching images (22.0GB Disk): 100%| 1279/1279 [00:00<00:0
0, 94018.63it/s]
val: Fast image access (ping: 0.00.0 ms, read: 671.7507.0 MB/s, size: 561.1
KB)
val: Scanning C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-Plate-Dete
ction\valid\labels.cache... 182 images, 0 backgrounds, 0 corrupt: 100%
| 182/182 [00:00<?, ?it/s]
val: Caching images (3.2GB Disk): 100%| 182/182 [00:00<00:00, 474</pre>
28.60it/s]
Plotting labels to vehicle-license-plate-detection\near-complete\imgsz1280\l
abels.jpg...
optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937'
and determining best 'optimizer', 'lr0' and 'momentum' automatically...
optimizer: AdamW(lr=0.001667, momentum=0.9) with parameter groups 57 weight
(decay=0.0), 64 weight(decay=0.0005), 63 bias(decay=0.0)
Image sizes 1280 train, 1280 val
Using 8 dataloader workers
Logging results to vehicle-license-plate-detection\near-complete\imgsz1280
Starting training for 500 epochs...
```

0.							
			1.16 80 [00:15<00			157	128
		Class	Images 6/6	Instances	Box(P	R	mAP5
		all	182	715	0.742	0.361	0.64
1	0.39	CDII			167 7	- .	0.1
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
۵.			1.156 80 [00:14<00			165	128
0.		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):		6/6 182				0.69
8	0.399	all	102	/15	0.646	0.001	0.09
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	2 / 7 2 2						
0:			1.175 80 [00:14<00			131	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):		182			0.605	0.64
3	0.365	acc	102	713	0.047	0.005	0.04
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	4./500	0.216	1 167	1 220	1 207	124	120
			1.167		1.39/	134	128
0:	100%	80/	80 [00:14<00	9:00, 5.70	it/sl		
		Class	80 [00:14<00 Images	Instances	Box(P		mAP5
		Class 100%	Images 6/6	Instances [00:00<00:	Box(P :00, 6.18it	:/s]	
		Class	Images 6/6	Instances [00:00<00:	Box(P	:/s]	
9	mAP50-95):	Class 100% all	Images 6/6	Instances [00:00<00: 715	Box(P :00, 6.18it 0.763	0.666	0.76
0	mAP50-95): 0.464 Epoch	Class 100% all	Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss	Box(P :00, 6.18it 0.763 dfl_loss	0.666 Instances	0.76 Siz
9 e	mAP50-95):	Class 100% all GPU_mem 8.21G	Images 6/6 182 box_loss 1.123 80 [00:13<00	Instances [00:00<00: 715 cls_loss 1.11 9:00, 5.74	Box(P :00, 6.18it 0.763 dfl_loss 1.38	0.666 Instances	0.76 Siz 128
0 9 e	mAP50-95): 0.464 Epoch 5/500 100%	Class 100% all GPU_mem 8.21G 80/ Class	Images 6/6 182 box_loss 1.123 80 [00:13<00 Images	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances	Box(P :00, 6.18it 0.763 dfl_loss 1.38 !it/s] Box(P	0.666 Instances 151	0.76 Siz
9 e	mAP50-95): 0.464 Epoch 5/500 100%	Class 100% all GPU_mem 8.21G 80/ Class	Images 6/6 182 box_loss 1.123 80 [00:13<00	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances	Box(P :00, 6.18it 0.763 dfl_loss 1.38 !it/s] Box(P	0.666 Instances 151	0.76 Siz 128
0 9 e	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5	Class 100% all GPU_mem 8.21G 8.21G Class 100% all	Images 6/6 182 box_loss 1.123 80 [00:13<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 1.11 9:00, 5.74 Instances [00:00<00: 715	Box(P 0.763 dfl_loss 1.38 4it/s] Box(P 0.787	0.666 Instances 151 R 2/s] 0.742	0.76 Siz 128 mAP5 0.79
9e0:8	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5	Class 100% all GPU_mem 8.21G 80/ Class 100%	Images 6/6 182 box_loss 1.123 80 [00:13<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 1.11 9:00, 5.74 Instances [00:00<00: 715	Box(P :00, 6.18it 0.763 dfl_loss 1.38 !it/s] Box(P :00, 6.58it	0.666 Instances 151 R 2/s] 0.742	0.76 Siz 128 mAP5
0 9 e 0:	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch	Class 100% all GPU_mem 8.21G 80/ Class 100% all GPU_mem	Images 6/6 182 box_loss 1.123 80 [00:13<00] Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 1.11 9:00, 5.74 Instances [00:00<00: 715	Box(P 00, 6.18it 0.763 dfl_loss 1.38 lit/s] Box(P 0.787 dfl_loss	0.666 Instances 151 R (/s] 0.742 Instances	0.76 Siz 128 mAP5 0.79
0 9 e 0: 0 8	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5	Class 100% all GPU_mem 8.21G	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0]	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76	Box(P 600, 6.18it 0.763 dfl_loss 1.38 lit/s] Box(P 600, 6.58it 0.787 dfl_loss 1.391	0.666 Instances 151 R (/s] 0.742 Instances	0.76 Siz 128 mAP5 0.79 Siz
0 9 e 0: 0 8	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch 6/500 100%	Class 100% all GPU_mem 8.21G	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0] Images	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76 Instances	Box(P 6.18it 0.763 dfl_loss 1.38 4it/s] Box(P 6.58it 0.787 dfl_loss 1.391 Dit/s] Box(P	0.666 Instances 151 R (/s] 0.742 Instances	0.76 Siz 128 mAP5 0.79
0 9 e 0: 0 8 e	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch 6/500 100% mAP50-95):	Class 100% all GPU_mem 8.21G	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0]	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76 Instances	Box(P 6.18it 0.763 dfl_loss 1.38 4it/s] Box(P 6.58it 0.787 dfl_loss 1.391 Dit/s] Box(P	0.666 Instances 151 R (/s] 0.742 Instances	0.76 Siz 128 mAP5 0.79 Siz
0 9 e 0: 0 8 e	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch 6/500 100% mAP50-95): 0.458	Class 100% all GPU_mem 8.21G	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0] Images 6/6 182	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76 Instances [00:00<00: 715	Box(P 6.18it 0.763 dfl_loss 1.38 4it/s] Box(P 6.58it 0.787 dfl_loss 1.391 0it/s] Box(P 6.38it 0.744	0.666 Instances 151 R (/s] 0.742 Instances 109 R (/s] 0.649	0.76 Siz 128 mAP5 0.79 Siz 128 mAP5 0.73
0 9 e 0: 0 8 e	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch 6/500 100% mAP50-95):	Class 100% all GPU_mem 8.21G 80/ Class 100% all GPU_mem 8.29G 80/ Class 100%	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0] Images 6/6 182	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76 Instances [00:00<00: 715	Box(P 00, 6.18it 0.763 dfl_loss 1.38 4it/s] Box(P 0.787 dfl_loss 1.391 0it/s] Box(P 6.38it	0.666 Instances 151 R (/s] 0.742 Instances 109 R (/s] 0.649	0.76 Siz 128 mAP5 0.79 Siz 128 mAP5
0 9 e 0: 0 8 e 0: 0 2	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch 6/500 100% mAP50-95): 0.458 Epoch 7/500	Class 100% all GPU_mem 8.21G	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0] Images 6/6 182 box_loss 1.11	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76 Instances [00:00<00: 715 cls_loss 0:01 0:00<00: 715	Box(P 6.18it 0.763 dfl_loss 1.38 4it/s] Box(P 6.00, 6.58it 0.787 dfl_loss 1.391 Dit/s] Box(P 6.00, 6.38it 0.744 dfl_loss	[/s] 0.666 Instances 151 R [/s] 0.742 Instances 109 R [/s] 0.649 Instances	0.76 Siz 128 mAP5 0.79 Siz 128 mAP5 0.73
0 9 e 0: 0 8 e 0: 0 2	mAP50-95): 0.464 Epoch 5/500 100% mAP50-95): 0.5 Epoch 6/500 100% mAP50-95): 0.458 Epoch	Class 100%	Images 6/6 182 box_loss 1.123 80 [00:13<0] Images 6/6 182 box_loss 1.14 80 [00:14<0] Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 1.11 0:00, 5.74 Instances [00:00<00: 715 cls_loss 1.06 0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.981 0:00, 5.62	Box(P 6.18it 0.763 dfl_loss 1.38 4it/s] Box(P 6.00, 6.58it 0.787 dfl_loss 1.391 Dit/s] Box(P 6.00, 6.38it 0.744 dfl_loss 1.37	[/s] 0.666 Instances 151 R [/s] 0.742 Instances 109 R [/s] 0.649 Instances 128	0.76 Siz 128 mAP5 0.79 Siz 128 mAP5 0.73

4	0.486	all	182	715	0.852	0.721	0.81
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	8/500 100%		1.083 80 [00:14<00			103	128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.23it	:/s]	mAP5
5	0.52	all		715			0.82
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	9/500 100%	80/	1.063 80 [00:14<00	9:00, 5.66	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.24it	:/s]	
8	0.538		182				
е	·	_	box_loss	_	_		
0:		80/	1.063 80 [00:13<00	9:00, 5.73	Bit/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.37it	:/s]	mAP5
8	0.544			715		0.752	
е		_	box_loss	_	_		Siz
			1.03		oit/s]	108	128
	100%	80/			D / D	Б	A D.E
0		Class 100%	Images 6/6	<pre>Instances [00:00<00:</pre>	00, 6.70it	:/s]	mAP5
9	mAP50-95):	Class 100% all	Images 6/6 182	Instances [00:00<00: 715	00, 6.70it 0.886	0.768	0.84
	mAP50-95): 0.544 Epoch	Class 100% all	Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss	00, 6.70it 0.886 dfl_loss	0.768 Instances	0.84 Siz
9 e	mAP50-95):	Class 100% all GPU_mem 8.37G 80/8	Images 6/6 182 box_loss 1.027 80 [00:14<00	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66	00, 6.70it 0.886 dfl_loss 1.296	0.768 Instances	0.84 Siz 128
9 e	mAP50-95): 0.544 Epoch 12/500 100%	Class 100% all GPU_mem 8.37G 80/6 Class 100%	Images 6/6 182 box_loss 1.027 80 [00:14<00 Images 6/6	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66 Instances [00:00<00:	00, 6.70it 0.886 dfl_loss 1.296 oit/s] Box(P 00, 6.34it	0.768 Instances 156 R	0.84 Siz 128 mAP5
9 e 0:	mAP50-95): 0.544 Epoch 12/500 100% mAP50-95): 0.565	Class 100% all GPU_mem 8.37G 80/6 Class 100% all	Images 6/6 182 box_loss 1.027 80 [00:14<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66 Instances [00:00<00: 715	00, 6.70it 0.886 dfl_loss 1.296 it/s] Box(P 00, 6.34it 0.889	0.768 Instances 156 R 2/s] 0.769	0.84 Siz 128 mAP5 0.86
9 e 0:	mAP50-95): 0.544 Epoch 12/500 100% mAP50-95): 0.565 Epoch	Class 100% all GPU_mem 8.37G 80/0 Class 100% all GPU_mem	Images 6/6 182 box_loss 1.027 80 [00:14<00] Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66 Instances [00:00<00: 715 cls_loss	00, 6.70it 0.886 dfl_loss 1.296 it/s] Box(P 00, 6.34it 0.889 dfl_loss	0.768 Instances 156 R 2/s] 0.769 Instances	0.84 Siz 128 mAP5 0.86
9 e 0: 0	mAP50-95): 0.544 Epoch 12/500 100% mAP50-95): 0.565 Epoch 13/500	Class 100% all GPU_mem 8.37G	Images 6/6 182 box_loss 1.027 80 [00:14<00] Images 6/6 182 box_loss 0.9919 80 [00:14<00]	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66 Instances [00:00<00: 715 cls_loss 0.7819 0:00, 5.61	00, 6.70it 0.886 dfl_loss 1.296 oit/s] Box(P 00, 6.34it 0.889 dfl_loss 1.274	0.768 Instances 156 R 7/s] 0.769 Instances	0.84 Siz 128 mAP5 0.86 Siz
9 e 0: 0	mAP50-95): 0.544 Epoch 12/500 100% mAP50-95): 0.565 Epoch 13/500	Class 100% all GPU_mem 8.37G 80/6 Class 100% all GPU_mem 8.25G 80/6 Class 100%	Images 6/6 182 box_loss 1.027 80 [00:14<00] Images 6/6 182 box_loss 0.9919 80 [00:14<00] Images 6/6	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66 Instances [00:00<00: 715 cls_loss 0.7819 0:00, 5.61 Instances [00:00<00:	00, 6.70it 0.886 dfl_loss 1.296 dit/s] Box(P 00, 6.34it 0.889 dfl_loss 1.274 .it/s] Box(P 00, 6.28it	0.768 Instances 156 R 2/s] 0.769 Instances 146 R 2/s]	0.84 Siz 128 mAP5 0.86 Siz 128 mAP5
9 e 0: 0 1 e	mAP50-95): 0.544 Epoch 12/500 100% mAP50-95): 0.565 Epoch 13/500 100%	Class 100% all GPU_mem 8.37G 80/class 100% all GPU_mem 8.25G 80/class	Images 6/6 182 box_loss 1.027 80 [00:14<00] Images 6/6 182 box_loss 0.9919 80 [00:14<00] Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.8291 0:00, 5.66 Instances [00:00<00: 715 cls_loss 0.7819 0:00, 5.61 Instances [00:00<00: 715	00, 6.70it 0.886 dfl_loss 1.296 dit/s] Box(P 00, 6.34it 0.889 dfl_loss 1.274 .it/s] Box(P	0.768 Instances 156 R 2/s] 0.769 Instances 146 R 2/s] 0.792	0.84 Siz 128 mAP5 0.86 Siz

۵.	14/500 100%	8.33G	1.002 80 [00:14<0	0.7942		156	128
		Class	Images	Instances	Box(P	R	mAP5
0	MAP50-95):	all	182	715	.00, 6.23it 0.862	0.739	0.83
4	0.547		102	713	0.002	0.755	0.05
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0 -					1.279	102	128
⊍:	100%				Box(P	R	mAP5
0	mAP50-95):				:00, 6.82it		
_	0 501		182	715	0.861	0.818	0.87
9	0.591				167. 7		
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
E	16/500	0 126	0 0017	0 7613	1.269	116	128
0:	100%					110	120
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				:00, 6.92it		0.07
7	0.585	all	182	715	0.843	0.82	0.87
,	Epoch	GPII mem	hox loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0	box_co33	0.03_0033	u1 t_t055	instances	312
	17/500	8.26G	0.9815	0.7579	1.268	139	128
0:	100%						
0	mADEO OE\.				Box(P :00, 6.73it		mAP5
U	IIIAP30-93):	all		715			0.87
2	0.596						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.	18/500		0.964			136	128
0:	100%		30 [00:14<0		Box(P	R	mAP5
0	mAP50-95):				:00, 6.82it		0
•	0 501	all	182	715	0.88	0.796	0.87
9	0.591	CDU	1 7	1 1	167 7	.	6 '
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	19/500	8 3/IG	0.9504	0 7218	1.241	124	128
0:	19/500		80 [00:13<0			124	120
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				:00, 6.75it		0.00
9	0.581	all	182	715	0.85	0.807	0.86
	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	-50011	5. 5G	20.1_1000	2.5055	u. t_1000	: : : : : : : : : : : : : : : : : :	312
	20/500	8.29G	0.9739	0.7487	1.259	150	128
0:	100%		80 [00:14<0			_	
0	mΔP50-05).		Images		Box(P :00, 6.50it		mAP5
U	III/II 30-33).	100.0	0/0	[00.00~00]		., 5]	

4	0.581	all	182	715	0.859	0.807	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/8	0.9652 80 [00:13<00	9:00, 5.78	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.49it	:/s]	mAP5
7	0.599	all	182	715	0.906	0.805	0.89
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	22/500 100%		0.9361 80 [00:14<00			129	128
		Class	Images 6/6	Instances	Box(P		mAP5
9	0.591	all	182	715	0.872	0.798	0.86
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	23/500 100%		0.9351 80 [00:14<00			105	128
		Class	Images 6/6	Instances	Box(P		mAP5
	0.593		182				0.88
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:			0.9171 80 [00:14<00			112	128
		Class	Images 6/6	Instances	Box(P		mAP5
5			182	_		_	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	25/500 100%		0.9219 80 [00:13<00			157	128
0		Class	Images 6/6	Instances	Box(P	R:/s1	mAP5
7	0.611	all		715			0.88
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	26/500 100%		0.9168 80 [00:13<00			128	128
0.	100%					R	mAP5
0	mAP50-95):		Images				
0	mAP50-95):		Images 6/6 182		00, 6.35it	:/s]	

۵.	27/500 100%		0.9275 30 [00:14<00			101	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	[00:00<00; 715	:00, 6.84it 0.872	0.815	0.88
8	0.597		102	715	0.072	0.013	0.00
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	20 (500	0.246	0.0000	0 6400	1 100	115	120
0:	100%				1.196 7it/sl	115	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				:00, 6.55it 0.897	0.805	0.89
8	0.622	acc	102	713	0.097	0.005	0.03
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
۵.	29/500 100%				1.19	118	128
0.	100%					R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00	:00, 6.32it	:/s]	
4	0.602	all	182	715	0.895	0.802	0.88
_		GPU mem	hox loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0	DOX_0033	0.03_0033	411_1033	instances	312
					1.196	147	128
0:	100%				Bit/s] Box(P	D	mAP5
0	mAP50-95):				:00, 6.21it		IIIAFS
		all			0.89		0.89
3	0.614	CDIL	h 1	-1 - 1	161 1	Tt	C:-
е	Epocn	GPU_mem	DOX_LOSS	CLS_LOSS	art_toss	Instances	Siz
	31/500	8.2G	0.8894	0.6445	1.2	120	128
0:	100%	80/8	30 [00:14<00	9:00, 5.67	7it/s]		
0	mAD50_05).				Box(P :00, 6.86it		mAP5
U	IIIAF 30 - 93).	all	182	715	0.878	0.836	0.90
5	0.634						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	22 /500	0 120	0 0771	0 6272	1 100	100	120
0:	32/500 100%		0.8771 30 [00:13<00			100	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00: 715	:00, 6.47it 0.897	0.81	0.89
3	0.611	att	102	/13	0.09/	0.01	0.09
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	22/500	0.210	0.8872	0 6241	1 100	00	130
		2 7 11-	III XX / /	0 6341	1.186	89	128
0:	33/500 100%						
	100%	80/8 Class	30 [00:14<00 Images	0:00, 5.71 Instances	lit/s]	R	mAP5

9	0.618	all	182	715	0.881	0.854	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/	0.8771 80 [00:13<00	0:00, 5.78	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.66it	:/s]	
2		all		715	0.891		
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	35/500 100%		0.8675 80 [00:13<06			128	128
0	mAP50-95):		Images 6/6				
9	0.624	all	182	715	0.908	0.826	0.8
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	36/500 100%		0.8733 80 [00:14<06			107	128
0	mAP50-95):		Images 6/6				mAP5
2	0.602	all	182	715	0.867	0.811	0.87
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:			0.8607 80 [00:13<06			139	128
0	mAP50-95):		Images 6/6		•		
6	0.624	all	182	715	0.892	0.808	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	38/500 100%		0.8511 80 [00:13<00			97	128
0	mAP50-95):	Class	Images 6/6	Instances	Box(P	R :/s]	mAP5
2	0.635	all	182	715	0.873	0.861	0.91
	0.055						
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
		8.28G	box_loss 0.8489 80 [00:14<00	0.5923	1.154		Siz 128
	39/500 100%	8.28G 80/6 Class	0.8489	0.5923 0:00, 5.69 Instances	1.154 it/s] Box(P	119 R	128 mAP5
0:	39/500 100%	8.28G 80/6 Class	0.8489 80 [00:14<00 Images	0.5923 0:00, 5.69 Instances	1.154 it/s] Box(P 00, 6.61it	119 R :/s]	128

ο.	40/500 100%		0.8452 80 [00:13<0			127	128
		Class	Images 6/6	Instances	Box(P	R(c.1	mAP5
U		all	182	715	0.89	0.825	0.89
7	0.638						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	41/500		0.8364			132	128
⊍:	100%		80 [00:13<0 Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.90it	:/s]	
8	0.638	all	182	/15	0.925	0.828	0.90
		GPU_mem	box loss	cls loss	dfl loss	Instances	Siz
е			_	_			
0.	·		0.8504 80 [00:13<0			129	128
0:	100%					R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00	:00, 6.70it	:/s]	
4	0.637	all	182	715	0.876	0.831	0.89
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.			0.8367 80 [00:13<0			123	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):		6/6				0.00
8	0.635	all	182	715	0.909	0.03/	0.90
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
ο.	44/500 100%		0.8463 80 [00:13<0			129	128
0.		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):		6/6				
2	0.63	all	182	715	0.894	0.841	0.90
_		GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е		_	_	_			
0 -	45/500		0.8376			141	128
⊍:	100%		80 [00:13<0 Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.82it	:/s]	
9	0.628	all	182	715	0.911	0.838	0.89
	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	• •						
	46/500	8.19G	0.8261	0.5689	1.141	117	128
0		1 00 //	00 [00 14 0	0.00 5 75	1 - 4 / - 1		
0:	100%		80 [00:14<00 Images			R	mAP5
0: 0	100%	Class	80 [00:14<00 Images 6/6	Instances	Box(P		mAP5

2	0.654	all	182	715	0.895	0.861	0.9
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	47/500 100%		0.8169 30 [00:14<00			124	128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.74it		mAP5
9	0.649	all	182	715	0.884	0.853	0.91
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	48/500 100%		0.822 30 [00:14<00			148	128
0	mAP50-95):		Images 6/6			R :/s]	mAP5
9	0.638	all	182	715	0.92	0.818	0.89
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
			0.8186 30 [00:13<00			91	128
		Class		Instances	Box(P	R :/s]	mAP5
	0.638	all			0.91	0.842	0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	•		0.8171 30 [00:13<00			114	128
		Class		Instances	Box(P	R :/s]	mAP5
8	0.635					0.841	0.90
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	51/500 100%		0.8137 30 [00:13<00			168	128
0	mAP50-95):	Class	Images	Instances			mAP5
3	0.651	all	182	715	0.908		0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	52/500 100%		0.8045 30 [00:14<00			138	128
0.	mAP50-95):	Class	Images	Instances	Box(P 00, 6.46it		mAP5
9	0.645	all	182	715	0.926	0.832	0.90
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

ο.	53/500 100%				1.13	121	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	182	715	:00, 6.97i1 0.856		0.88
6	0.612	acc	102	, 13	0.000	0.0.0	0.00
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
						113	128
0:	100%					R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00	:00, 6.73i1	:/s]	
7	0.645	all	182	715	0.905	0.837	0.90
		GPU mem	hox loss	cls loss	dfl loss	Instances	Siz
е	2000	o. o	30X_1033	013_1033	u	1113 tallees	311
٥.	55/500 100%				1.114	119	128
0:	100%					R	mAP5
0	mAP50-95):				:00, 6.62i1		0.00
9	0.644	att	182	715	0.93	0.834	0.90
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0:	56/500 100%				1.109 Pit/sl	104	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				:00, 6.59i1		
		all	182	715	0.92	0.85/	0.91
7	0.65	all	182	715	0.92	0.85/	0.91
						0.85/ Instances	
7 e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е		GPU_mem 8.13G 8.13G	box_loss 0.78 80 [00:13<0	cls_loss 0.5346 0:00, 5.75	dfl_loss 1.115 5it/s]	Instances	
e 0:	Epoch 57/500 100%	GPU_mem 8.13G 8.078 Class	box_loss 0.78 80 [00:13<0 Images	cls_loss 0.5346 0:00, 5.75 Instances	dfl_loss 1.115 5it/s] Box(P	Instances 109 R	Siz
е	Epoch 57/500 100%	GPU_mem 8.13G 8.078 Class	box_loss 0.78 80 [00:13<0 Images	cls_loss 0.5346 0:00, 5.75 Instances	dfl_loss 1.115 5it/s]	Instances 109 R	Siz
e 0:	57/500 100% mAP50-95):	8.13G 8.13G 80/8 Class 100% 100%	0.78 0.78 0.78 0.78 0.13<0 1mages 6/6 182	cls_loss 0.5346 9:00, 5.75 Instances [00:00<00 715	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894	Instances 109 R 7/s] 0.86	Siz 128 mAP5 0.91
e 0: 0	57/500 100% mAP50-95):	GPU_mem 8.13G 80/8 Class 100%	0.78 0.78 0.78 0.78 0.13<0 1mages 6/6 182	cls_loss 0.5346 9:00, 5.75 Instances [00:00<00 715	dfl_loss 1.115 5it/s] Box(P :00, 6.59it	Instances 109 R 7/s] 0.86	Siz 128 mAP5
e 0:	57/500 100% mAP50-95):	GPU_mem 8.13G 80/8 Class 100% Class all GPU_mem	0.78 0.78 0.78 0.78 0.13<0 1mages 6/6 182	cls_loss 0.5346 9:00, 5.75 Instances [00:00<00 715 cls_loss	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss	Instances 109 R 7/s] 0.86 Instances	Siz 128 mAP5 0.91
e 0: 0	57/500 100% mAP50-95): 0.638 Epoch	GPU_mem 8.13G 8.0/8 Class 100% all GPU_mem 8.22G 80/8	box_loss 0.78 80 [00:13<00 Images 6/6 182 box_loss 0.8029 80 [00:13<00	cls_loss 0.5346 9:00, 5.75 Instances [00:00<00 715 cls_loss 0.546 9:00, 5.75	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s]	Instances 109 R 7/s] 0.86 Instances 141	Siz 128 mAP5 0.91 Siz 128
e 0: 0	57/500 100% mAP50-95): 0.638 Epoch 58/500 100%	GPU_mem 8.13G	box_loss 0.78 80 [00:13<0] Images 6/6 182 box_loss 0.8029 80 [00:13<0] Images	cls_loss 0.5346 0:00, 5.75 Instances [00:00<00 715 cls_loss 0.546 0:00, 5.75 Instances	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s] Box(P	Instances 109 R 7/s] 0.86 Instances 141 R	Siz 128 mAP5 0.91
e 0: 0 3 e 0: 0	Epoch 57/500 100% mAP50-95): 0.638 Epoch 58/500 100% mAP50-95):	GPU_mem 8.13G	box_loss 0.78 80 [00:13<0] Images 6/6 182 box_loss 0.8029 80 [00:13<0] Images	cls_loss 0.5346 0:00, 5.75 Instances [00:00<00 715 cls_loss 0.546 0:00, 5.75 Instances	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s]	Instances 109 R 7/s] 0.86 Instances 141 R	Siz 128 mAP5 0.91 Siz 128
e 0: 0 3	Epoch 57/500 100% mAP50-95): 0.638 Epoch 58/500 100% mAP50-95): 0.648	GPU_mem 8.13G	box_loss 0.78 80 [00:13<0] Images 6/6 182 box_loss 0.8029 80 [00:13<0] Images 6/6 182	cls_loss	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s] Box(P :00, 6.63it 0.932	Instances 109 R 7/s] 0.86 Instances 141 R 7/s] 0.838	Siz 128 mAP5 0.91 Siz 128 mAP5 0.91
e 0: 0 3 e 0: 0	Epoch 57/500 100% mAP50-95): 0.638 Epoch 58/500 100% mAP50-95):	GPU_mem 8.13G	box_loss 0.78 80 [00:13<0] Images 6/6 182 box_loss 0.8029 80 [00:13<0] Images 6/6 182	cls_loss	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s] Box(P :00, 6.63it	Instances 109 R 7/s] 0.86 Instances 141 R 7/s] 0.838	Siz 128 mAP5 0.91 Siz 128 mAP5
e 0: 0 3 e 0: 7 e	Epoch 57/500 100% mAP50-95): 0.638 Epoch 58/500 100% mAP50-95): 0.648 Epoch 59/500	GPU_mem 8.13G	box_loss 0.78 80 [00:13<0] Images 6/6 182 box_loss 0.8029 80 [00:13<0] Images 6/6 182 box_loss	cls_loss	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s] Box(P :00, 6.63it 0.932 dfl_loss 1.123	Instances 109 R 7/s] 0.86 Instances 141 R 7/s] 0.838 Instances	Siz 128 mAP5 0.91 Siz 128 mAP5 0.91
e 0: 0 3 e 0: 7 e	Epoch 57/500 100% mAP50-95): 0.638 Epoch 58/500 100% mAP50-95): 0.648 Epoch	GPU_mem 8.13G	box_loss 0.78 80 [00:13<0] Images 6/6 182 box_loss 0.8029 80 [00:13<0] Images 6/6 182 box_loss	cls_loss 0.5346 9:00, 5.75 Instances [00:00<00 715 cls_loss 0.546 9:00, 5.75 Instances [00:00<00 715 cls_loss 0.5422 9:00, 5.74	dfl_loss 1.115 5it/s] Box(P :00, 6.59it 0.894 dfl_loss 1.123 5it/s] Box(P :00, 6.63it 0.932 dfl_loss 1.123 4it/s]	Instances 109 R [/s] 0.86 Instances 141 R [/s] 0.838 Instances	Siz 128 mAP5 0.91 Siz 128 mAP5 0.91 Siz

1	0.645	all	182	715	0.891	0.851	0.9
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	60/500 100%		0.7888 30 [00:13<00			142	128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.68it		mAP5
7	0.646	all		715			
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	61/500 100%	80/8	0.7782 30 [00:13<00	0:00, 5.72	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.36it		
9	0.653					0.867	
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
		80/8	0.769 30 [00:13<00	0:00, 5.73	it/s]		
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.58it		mAP5
9	0.653	all		715			
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
		80/8	0.7728 30 [00:13<00	0:00, 5.74	it/s]		128
0		100%	6/6	[00:00<00:	00, 6.79it		mAP5
3	0.664					0.857	
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	64/500 100%		0.7608 30 [00:13<00	0:00, 5.76	it/s]	119	128
0	mAP50-95):	100%		[00:00<00:	00, 6.90it	:/s]	mAP5
1	0.672	all	182	715	0.901	0.835	0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	65/500 100%	80/8	0.7847 30 [00:14<00	0:00, 5.71	it/s]	128	128
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 6.71it	:/s]	mAP5
3	0.66	all	182	715	0.913	0.839	0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

o ·	66/500 100%	8.24G	0.7734 80 [00:13<0			142	128
		Class	Images	Instances	Box(P :00, 6.56it		mAP5
U	IIIAP30-93):	all	182	715	0.919	0.86	0.92
6	0.668						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	67/500				1.084	104	128
0:	100%				Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.70it	:/s]	
1	0.656	all	182	/15	0.929	0.846	0.92
		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е		_	_		_		
٥.	68/500 100%				1.101	114	128
0.	100.9					R	mAP5
0	mAP50-95):			[00:00<00: 715	00, 6.84it 0.917		0.92
5	0.653	all	182	/15	0.917	0.00	0.92
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0:	69/500 100%				1.1 hit/sl	83	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	100% all		715	00, 6.98it 0.883		0.92
2	0.652	U. 5.		. = 5	0.000	0.000	0.0-
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	70/500	8.21G	Θ 771	0.5234	1.102	84	128
0:	100%	80/8	80 [00:13<0	9:00, 5.83	lit/s]		120
0	mAD50 05).				Box(P :00, 6.82it		mAP5
U	IIIAF30-93).	all	182	715	0.91	0.865	0.9
2	0.66						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	71/500	8.22G	0.7504	0.5044	1.087	112	128
0:	100%	80/8	00:13<0	9:00, 5.84	lit/s]		
0	mAP50-95):				Box(P :00, 6.76it	R :/sl	mAP5
		all	182	715	0.908	0.858	0.91
6	0.665	CDII	hay lass	ala lasa	d £ 1 1	Tueterer	C: -
е	Epoch	GPU_mem	DOX_LOSS	cts_toss	dfl_loss	instances	Siz
	72/500		0.7551			162	128
0:	100%		00:13<0 Images			R	mAP5
0	mAP50-95):				:00, 6.83it		3

6	0.672	all	182	715	0.911	0.876	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/	0.7545 80 [00:13<00	9:00, 5.82	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 7.01it	:/s]	mAP5
1	0.658	all			0.915		
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	74/500 100%	80/	0.7438 80 [00:14<00	9:00, 5.69	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.65it	:/s]	mAP5
4	0.66	all	182	715	0.911	0.862	0.91
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	75/500 100%		0.7509 80 [00:13<00			110	128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.82it		
1	0.661	all	182	715	0.909	0.852	0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:			0.743 80 [00:14<00			159	128
	100% mAP50-95):	80/ Class 100%	80 [00:14<00 Images 6/6	9:00, 5.71 Instances [00:00<00:	it/s] Box(P 00, 6.73it	R :/s]	mAP5
	100% mAP50-95):	80/ Class 100%	80 [00:14<00 Images	9:00, 5.71 Instances [00:00<00:	it/s] Box(P 00, 6.73it	R :/s]	mAP5
0	100% mAP50-95):	80/ Class 100%	80 [00:14<00 Images 6/6	0:00, 5.71 Instances [00:00<00: 715	it/s] Box(P 00, 6.73it 0.901	R :/s] 0.861	mAP5
0 5 e	mAP50-95): 0.668 Epoch	80/ Class 100% all GPU_mem	80 [00:14<00 Images 6/6 182	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086	R (/s] 0.861 Instances	mAP5 0.91 Siz 128
0 5 e	mAP50-95): 0.668 Epoch 77/500 100%	80/ Class 100% all GPU_mem 8.26G 80/ Class 100%	80 [00:14<00] Images 6/6 182 box_loss 0.7382 80 [00:14<00] Images 6/6	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048 0:00, 5.71 Instances [00:01<00:	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086 it/s] Box(P 00, 5.97it	R 2/s] 0.861 Instances 112 R	mAP5 0.91 Siz 128 mAP5
0 5 e	mAP50-95): 0.668 Epoch 77/500 100%	80/ Class 100% all GPU_mem 8.26G 80/ Class	80 [00:14<00 Images 6/6 182 box_loss 0.7382 80 [00:14<00 Images	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048 0:00, 5.71 Instances	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086 it/s] Box(P	R 2/s] 0.861 Instances 112 R 2/s]	mAP5 0.91 Siz 128
0 5 e 0:	mAP50-95): 0.668 Epoch 77/500 100% mAP50-95): 0.669	80/ Class 100% all GPU_mem 8.26G 80/ Class 100% all	80 [00:14<00] Images 6/6 182 box_loss 0.7382 80 [00:14<00] Images 6/6	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048 0:00, 5.71 Instances [00:01<00: 715	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086 it/s] Box(P 00, 5.97it 0.929	R 2/s] 0.861 Instances 112 R 2/s] 0.851	mAP5 0.91 Siz 128 mAP5 0.92
0 5 e 0: 0 5	mAP50-95): 0.668 Epoch 77/500 100% mAP50-95): 0.669	80/ Class 100% all GPU_mem 8.26G 80/ Class 100% all GPU_mem 8.23G	80 [00:14<00] Images 6/6 182 box_loss 0.7382 80 [00:14<00] Images 6/6 182	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048 0:00, 5.71 Instances [00:01<00: 715 cls_loss	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086 it/s] Box(P 00, 5.97it 0.929 dfl_loss 1.085	R 2/s] 0.861 Instances 112 R 2/s] 0.851	mAP5 0.91 Siz 128 mAP5 0.92
0 5 e 0: 0 5	100% mAP50-95): 0.668 Epoch 77/500 100% mAP50-95): 0.669 Epoch 78/500 100%	80/ Class 100%	80 [00:14<00 Images 6/6 182 box_loss 0.7382 80 [00:14<00 Images 6/6 182 box_loss 0.7376 80 [00:14<00 Images 6/6 Images 6/6 16/6	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048 0:00, 5.71 Instances [00:01<00: 715 cls_loss 0.4997 0:00, 5.69 Instances [00:00<00:	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086 it/s] Box(P 00, 5.97it 0.929 dfl_loss 1.085 it/s] Box(P 00, 6.91it	R 2/s] 0.861 Instances 112 R 2/s] 0.851 Instances 117 R 2/s]	mAP5 0.91 Siz 128 mAP5 0.92 Siz 128 mAP5
0 5 0: 0 5	100% mAP50-95): 0.668 Epoch 77/500 100% mAP50-95): 0.669 Epoch 78/500 100%	80/ Class 100% all GPU_mem 8.26G 80/ Class 100% all GPU_mem 8.23G 80/ Class 100% all	80 [00:14<00 Images 6/6 182 6/6	0:00, 5.71 Instances [00:00<00: 715 cls_loss 0.5048 0:00, 5.71 Instances [00:01<00: 715 cls_loss 0.4997 0:00, 5.69 Instances [00:00<00: 715	it/s] Box(P 00, 6.73it 0.901 dfl_loss 1.086 it/s] Box(P 00, 5.97it 0.929 dfl_loss 1.085 it/s] Box(P 00, 6.91it 0.905	R 2/s] 0.861 Instances 112 R 2/s] 0.851 Instances 117 R 2/s]	mAP5 0.91 Siz 128 mAP5 0.92 Siz 128 mAP5 0.92

۵.	79/500 100%	8.37G	0.7491 80 [00:13<0			98	128
		Class	Images	Instances	Box(P :00, 6.88it		mAP5
0	IIIAP30-93):	all	182	715	0.908	0.851	0.91
4	0.659						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.					1.078	151	128
0:	100%					R	mAP5
0	mAP50-95):	100%	6/6		:00, 6.74it	:/s]	
0	0.001	all	182	715	0.946	0.835	0.91
8	0.661	CDII	ha 1aaa	-1- 1	441 1	T.,	C:-
е	Epocn	GPU_mem	DOX_LOSS	CLS_LOSS	art_toss	Instances	Siz
	81/500	8.23G	0.7499	0.4983	1.082	136	128
0:	100%						
_	4DE0 05)					R	mAP5
0	MAP50-95):			715	.00, 6.78it 0.931		0.92
7	0.671	acc	102	713	0.551	0.031	0.52
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е		_	_		_		
					1.069	137	128
0:	100%				lit/s] Box(P	D	mAP5
0	mAP50-95):				:00, 6.80it		IIIAFJ
		all		715			0.91
8	0.672						
0	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	83/500	9 266	0.7284	0 100	1.069	173	128
0:	100%		80 [00:14<0			1/3	120
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				:00, 6.60it		0.0
2	0.674	all	182	715	0.905	0.863	0.9
_		GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	_p	o. oo	200	010_1000	u1000		
	84/500	8.25G	0.739	0.4946	1.077	147	128
0:	100%		80 [00:13<0			D	A D.E.
0	mAP50-95).				Box(P :00, 6.34it	R -/s1	mAP5
J		all	182	715	0.91	0.865	0.92
3	0.669						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
ο.	85/500 100%		0.7262 80 [00:13<0		1.073	139	128
0:	100.0		Images			R	mAP5
0	mAP50-95):				:00, 6.52it		

2	0.666	all	182	715	0.925	0.851	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:		80/	0.7203 80 [00:13<00	9:00, 5.72	!it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.66it	:/s]	
6	0.671	all	182	715	0.922	0.854	0.92
е	•	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	87/500 100%		0.7318 80 [00:13<0			146	128
		Class	Images 6/6	Instances	Box(P		mAP5
3	0.673	all	182	715	0.919	0.861	0.9
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 :	88/500 100%		0.7121 80 [00:13<0			136	128
		Class	Images 6/6	Instances	Box(P		mAP5
	0.663	all	182				0.92
		CDII mam	h 1	.1 . 1	161 1	T	C:-
e	Еросп	GPU_mem	DOX_LOSS	cts_toss	dfl_loss	Instances	Siz
	89/500	8.39G	0.7202	0.4883	1.063		
0:	89/500 100%	8.39G 80/ Class	0.7202 80 [00:14<0 Images	0.4883 0:00, 5.66 Instances	1.063 Sit/s] Box(P	156 R	128
0: 0	89/500 100% mAP50-95):	8.39G 80/ Class 100%	0.7202 80 [00:14<00	0.4883 9:00, 5.66 Instances [00:00<00:	1.063 sit/s] Box(P 00, 6.25it	156 R /s]	128 mAP5
0: 0	89/500 100% mAP50-95):	8.39G 80/ Class 100% all	0.7202 80 [00:14<00 Images 6/6	0.4883 9:00, 5.66 Instances [00:00<00: 715	1.063 sit/s] Box(P 00, 6.25it 0.909	156 R 	128 mAP5 0.92
0: 0 3	89/500 100% mAP50-95): 0.672 Epoch	8.39G 80/ Class 100% all GPU_mem	0.7202 80 [00:14<00 Images 6/6 182 box_loss	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss	1.063 Sit/s] Box(P 00, 6.25it 0.909 dfl_loss	156 R [/s] 0.873 Instances	128 mAP5 0.92 Siz
0: 0 3 e	89/500 100% mAP50-95): 0.672 Epoch 90/500 100%	8.39G 80/ Class 100% all GPU_mem 8.29G 80/ Class	0.7202 80 [00:14<00 Images 6/6 182 box_loss 0.72 80 [00:13<00 Images	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances	1.063 Sit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 Sit/s] Box(P	156 R 2/s] 0.873 Instances 123 R	128 mAP5 0.92 Siz
0: 0 3 e 0:	89/500 100% mAP50-95): 0.672 Epoch 90/500 100% mAP50-95):	8.39G 80/ Class 100% all GPU_mem 8.29G 80/ Class	0.7202 80 [00:14<00] Images 6/6 182 box_loss 0.72 80 [00:13<00] Images 6/6	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances	1.063 Sit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 Sit/s] Box(P	156 R 2/s] 0.873 Instances 123 R	128 mAP5 0.92 Siz 128 mAP5
0: 0 3 e 0: 0	89/500 100% mAP50-95): 0.672 Epoch 90/500 100% mAP50-95):	8.39G 80/ Class 100% all GPU_mem 8.29G 80/ Class 100% all	0.7202 80 [00:14<00] Images 6/6 182 box_loss 0.72 80 [00:13<00] Images 6/6	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances [00:00<00:	1.063 Sit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 Sit/s] Box(P 00, 6.96it 0.932	156 R 2/s] 0.873 Instances 123 R 2/s] 0.837	128 mAP5 0.92 Siz 128 mAP5 0.91
0: 0 3 e 0: 0 7	89/500 100% mAP50-95): 0.672 Epoch 90/500 100% mAP50-95): 0.664 Epoch	8.39G 80/Class 100% all GPU_mem 8.29G 80/Class 100% all GPU_mem 8.13G	0.7202 80 [00:14<00 Images 6/6 182 box_loss 0.72 80 [00:13<00 Images 6/6 182 box_loss	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances [00:00<00: 715 cls_loss	1.063 Sit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 Sit/s] Box(P 00, 6.96it 0.932 dfl_loss 1.067	156 R 2/s] 0.873 Instances 123 R 2/s] 0.837 Instances	128 mAP5 0.92 Siz 128 mAP5 0.91 Siz
0: 0 3 e 0: 0 7	89/500 100% mAP50-95): 0.672 Epoch 90/500 100% mAP50-95): 0.664 Epoch	8.39G 80/ Class 100%	0.7202 80 [00:14<00 Images 6/6 182 box_loss 0.72 80 [00:13<00 Images 6/6 182 box_loss 0.7265 80 [00:13<00 Images	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances [00:00<00: 715 cls_loss	1.063 bit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 bit/s] Box(P 00, 6.96it 0.932 dfl_loss 1.067 bit/s] Box(P Box(P	156 R 2/s] 0.873 Instances 123 R 2/s] 0.837 Instances 134 R	128 mAP5 0.92 Siz 128 mAP5 0.91 Siz
0: 0 3 e 0: 0 7 e	89/500 100% mAP50-95): 0.672 Epoch 90/500 100% mAP50-95): 0.664 Epoch 91/500 100% mAP50-95):	8.39G 80/ Class 100%	0.7202 80 [00:14<00 Images 6/6 182 box_loss 0.72 80 [00:13<00 Images 6/6 182 box_loss 0.7265 80 [00:13<00	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances [00:00<00: 715 cls_loss 0.4831 9:00, 5.73 Instances [00:00<00:	1.063 bit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 bit/s] Box(P 00, 6.96it 0.932 dfl_loss 1.067 bit/s] Box(P Box(P	156 R 2/s] 0.873 Instances 123 R 2/s] 0.837 Instances 134 R 2/s]	128 mAP5 0.92 Siz 128 mAP5 0.91 Siz 128 mAP5
0: 0 3 e 0: 0 7	89/500 100% mAP50-95): 0.672 Epoch 90/500 100% mAP50-95): 0.664 Epoch 91/500 100% mAP50-95): 0.67	8.39G 80/ Class 100% all GPU_mem 8.29G 80/ Class 100% all GPU_mem 8.13G 80/ Class 100% all	0.7202 80 [00:14<00 Images 6/6 182 box_loss 0.72 80 [00:13<00 Images 6/6 182 box_loss 0.7265 80 [00:13<00 Images 6/6	0.4883 9:00, 5.66 Instances [00:00<00: 715 cls_loss 0.4723 9:00, 5.74 Instances [00:00<00: 715 cls_loss 0.4831 9:00, 5.73 Instances [00:00<00: 715	1.063 bit/s] Box(P 00, 6.25it 0.909 dfl_loss 1.063 bit/s] Box(P 00, 6.96it 0.932 dfl_loss 1.067 bit/s] Box(P 00, 6.58it 0.922	156 R 2/s] 0.873 Instances 123 R 2/s] 0.837 Instances 134 R 2/s] 0.87	128 mAP5 0.92 Siz 128 mAP5 0.91 Siz 128 mAP5 0.91

۵.	92/500 100%		0.7097 30 [00:14<0			113	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				:00, 6.02it		
1	0.674	all	182	715	0.911	0.869	0.92
	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	·	_	_	_	_		
					1.063	126	128
0:	100%						4.05
0	mADEO OE).				Box(P		mAP5
0	MAP30-93):			715	.00, 6.28it 0.936		0.92
1	0.674		182	713	0.930	0.848	0.92
_			h 1	-1 - 1	161 1	T	c :-
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
_					1.056	102	128
0:	100%					D	A D.E
0	mADEO OE).				Box(P		mAP5
0	IIIAP50-95):			715	.00, 6.76it 0.923	0.84	0.92
1	0.667	att	102	/13	0.923	0.04	0.92
_		CDII	h 1	-1 - 1	161 1	T	C:-
_	Epoch	GPU_mem	box_toss	cts_toss	dfl_loss	Instances	Siz
е							
					1.057	150	128
0:	100%						4.05
^	ADEO OE) -				Box(P		mAP5
0	MAP30-93):	all		715	:00, 6.78it 0.918		0.92
4	0.669	acc	102	713	0.910	0.000	0.92
_		CDII mam	hay lass	.].]	d £ 1 1000	Tnatanaaa	C ÷ -
0	Epoch	GPU_IIIeIII	box_toss	CIS_LOSS	dfl_loss	instances	Siz
е	00/-00						
0 -	96/500		0.7148			107	128
⊍:	100%	<u> </u>	30 [00:13<0		Box(P	R	mAP5
0	mAD50_05).				:00, 6.60it		IIIAFS
U	IIIAF 30-93).	all	182	715	0.941	0.847	0.92
2	0.664	acc	102	713	0.541	0.047	0.52
		GPU mem	hov loss	cle loce	dfl_loss	Instances	Siz
е	Еросп	GPU_IIIeIII	DOX_LOSS	Cts_toss	411_1055	Tilstalices	312
-	07./500	0.206	0.7007	0.4662	1 054	154	120
٥.	97/500		0.7087			154	128
0:	100%		30 [00:13<00			R	mAP5
0	mΛP50_Q5):				Box(P :00, 6.61it		IIIAFS
U	IIIAF 30-93).	all	182	715	0.913	0.849	0.92
2	0.664	acc	102	113	0.913	0.049	0.32
_		CDII mam	hov loss	olo los-	dfl 1	Inctances	C:-
0	Epoch	GPU_mem	DOX_LOSS	CLS_LOSS	dfl_loss	Tils rances	Siz
е							
	00 /		0 7000	0 1615	1 062	113	128
0	98/500		0.7083			113	120
0:	98/500 100%	80/8	30 [00:14<0	0:00, 5.73	lit/s]		
0:	100%	80/8 Class	30 [00:14<00 Images	0:00, 5.71 Instances	lit/s]	R	mAP5

8	0.669	all	182	715	0.922	0.858	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:		80/	0.7086 80 [00:13<00	9:00, 5.73	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.46it	:/s]	mAP5
2	0.659	all	182	715	0.882	0.873	0.9
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	100/500 100%		0.702 80 [00:14<00			173	128
		Class	Images 6/6	Instances	Box(P		mAP5
	0.668	all		715			0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
			0.7039 80 [00:14<00			154	128
		Class	Images 6/6	Instances	Box(P		mAP5
	0.671		182				0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
			0.7040	0 4616	1.048	87	128
ο.					i + /c1		
	100%	80/ Class	80 [00:13<00 Images	0:00, 5.75 Instances	Box(P		
0	100% mAP50-95):	80/ Class 100%	80 [00:13<00	0:00, 5.75 Instances [00:00<00:	Box(P 00, 6.72it	:/s]	mAP5
<u>0</u>	100% mAP50-95):	80/ Class 100%	80 [00:13<00 Images 6/6	0:00, 5.75 Instances [00:00<00: 715	Box(P 00, 6.72it 0.907	0.87	mAP5
0 3 e	mAP50-95): 0.683 Epoch 103/500	80/ Class 100% all GPU_mem	80 [00:13<00 Images 6/6 182 box_loss	0:00, 5.75 Instances [00:00<00: 715 cls_loss	Box(P 00, 6.72it 0.907 dfl_loss 1.047	0.87 Instances	mAP5
0 3 e 0:	100% mAP50-95): 0.683 Epoch 103/500 100%	80/ Class 100% all GPU_mem 8.24G 80/ Class	80 [00:13<00 Images 6/6 182 box_loss 0.6845 80 [00:13<00 Images	0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.4571 0:00, 5.72 Instances	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P	0.87 Instances 151	mAP5 0.92 Siz
0 3 e 0:	100% mAP50-95): 0.683 Epoch 103/500 100% mAP50-95):	80/ Class 100% all GPU_mem 8.24G 80/ Class	80 [00:13<00 Images 6/6 182 box_loss 0.6845 80 [00:13<00 Images 6/6	0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.4571 0:00, 5.72 Instances	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P	0.87 Instances 151 R	mAP5 0.92 Siz 128
0 3 e 0:	100% mAP50-95): 0.683 Epoch 103/500 100% mAP50-95): 0.674	80/ Class 100% all GPU_mem 8.24G 80/ Class 100% all	80 [00:13<00 Images 6/6 182 box_loss 0.6845 80 [00:13<00 Images 6/6	0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.4571 0:00, 5.72 Instances [00:00<00: 715	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P 00, 6.71it 0.919	0.87 Instances 151 R 2/s] 0.851	mAP5 0.92 Siz 128 mAP5 0.92
0 3 e 0:	100% mAP50-95): 0.683 Epoch 103/500 100% mAP50-95): 0.674	80/ Class 100% all GPU_mem 8.24G	80 [00:13<00 Images 6/6 182 box_loss 0.6845 80 [00:13<00 Images 6/6 182	0:00, 5.75 Instances [00:00<00: 715 cls_loss	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P 00, 6.71it 0.919 dfl_loss	0.87 Instances 151 R (/s] 0.851 Instances	mAP5 0.92 Siz 128 mAP5 0.92
0 3 e 0: 0	100% mAP50-95): 0.683 Epoch 103/500 100% mAP50-95): 0.674 Epoch 104/500 100%	80/ Class 100% all GPU_mem 8.24G 80/ Class 100% all GPU_mem 8.25G 80/ Class	80 [00:13<00 Images 6/6 182 6/6	0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.4571 0:00, 5.72 Instances [00:00<00: 715 cls_loss 0.458 0:00, 5.75 Instances	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P 00, 6.71it 0.919 dfl_loss 1.051 it/s] Box(P	0.87 Instances 151 R (/s] 0.851 Instances	mAP5 0.92 Siz 128 mAP5 0.92 Siz
0 3 e 0: 0 1 e	100% mAP50-95): 0.683 Epoch 103/500 100% mAP50-95): 0.674 Epoch 104/500 100% mAP50-95):	80/ Class 100% all GPU_mem 8.24G 80/ Class 100% all GPU_mem 8.25G 80/ Class	80 [00:13<00 Images 6/6 182 60:13<00 Images 6/6 182 6/6 18	0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.4571 0:00, 5.72 Instances [00:00<00: 715 cls_loss 0.458 0:00, 5.75 Instances	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P 00, 6.71it 0.919 dfl_loss 1.051 it/s] Box(P 00, 6.34it	0.87 Instances 151 R 2/s] 0.851 Instances 170 R 2/s]	mAP5 0.92 Siz 128 mAP5 0.92 Siz 128
0 3 e 0: 0 1 e	100% mAP50-95): 0.683 Epoch 103/500 100% mAP50-95): 0.674 Epoch 104/500 100% mAP50-95): 0.669	80/ Class 100% all GPU_mem 8.24G	80 [00:13<00 Images 6/6 182 box_loss 0.6845 80 [00:13<00 Images 6/6 182 box_loss 0.6873 80 [00:13<00 Images 6/6 18	0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.4571 0:00, 5.72 Instances [00:00<00: 715 cls_loss 0.458 0:00, 5.75 Instances [00:00<00: 715	Box(P 00, 6.72it 0.907 dfl_loss 1.047 it/s] Box(P 00, 6.71it 0.919 dfl_loss 1.051 it/s] Box(P 00, 6.34it 0.924	0.87 Instances 151 R (/s] 0.851 Instances 170 R (/s] 0.867	mAP5 0.92 Siz 128 mAP5 0.92 Siz 128 mAP5 0.92

ω.	105/500 100%		0.7018			110	128
		Class	Images	Instances	Box(P :00, 6.37it	R(61	mAP5
U	IIIAP30-93):	all	182	715	0.928	0.856	0.91
6	0.663						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	106/500	8.29G	0.6937	0.4533	1.05	125	128
0:	100%					5	ADE
0	mAP50-95):				Box(P :00, 6.90it		mAP5
Ū					0.905	0.876	0.92
5	0.674						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	107/500	0 220	0 6051	0 4527	1 040	142	120
0:	107/500				1.049 Sit/sl	142	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				00, 6.25it 0.899		0.02
3	0.679	all	182	715	0.899	0.873	0.92
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·	_	_	_	_		
					1.037	166	128
0:	100%				Box(P	R	mAP5
0	mAP50-95):				:00, 6.82it		IIIAI 3
_	0.004	all	182	715	0.903	0.843	0.91
6	0.664	CDIL	h 1	-1 - 1	461 1	T	C:-
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	109/500	8.22G	0.6807	0.4498	1.038	125	128
0:	100%		80 [00:13<0				
^	ADEO OE\.				Box(P		mAP5
0	MAP50-95):	all	182	715	00, 6.46it 0.922	0.863	0.92
3	0.673	411	101	, 13	0.522	0.005	0.32
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.	110/500 100%		0.6859 80 [00:13<0			168	128
0:	100%				Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.77it	:/s]	
3	0.672	all	182	715	0.934	0.858	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	111/500	8.36G	0.6696	0.4393	1.03	127	128
0:	100%		30 [00:14<0			127	120
			<u>Im</u> ages				mAP5
0	mAP50-95):	1000	1 0 10	F A A A A A	00 0 701	/ 1	

2	0.682	all	182	715	0.912	0.851	0.9
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	112/500 100%	80/8	0.6789 30 [00:13<00	9:00, 5.72	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.87it		mAP5
6	0.677	all			0.927		
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/8	0.675 30 [00:13<00	9:00, 5.76	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.70it		
9	0.67					0.855	
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	
0:		80/8	0.6795 30 [00:13<00	9:00, 5.73	it/s]		
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.70it		
2	0.674				0.906		
е			_			Instances	Siz
0:		80/8	0.6707 30 [00:13<00	9:00, 5.74	it/s]		
0		100%	6/6	[00:00<00:	00, 6.94it		
8	0.663					0.869	
е	Epoch	_	_		_	Instances	Siz
0:	116/500 100%	80/8	0.6744 30 [00:13<00	9:00, 5.72	it/s]	131	128
0	mAP50-95):	100%		[00:00<00:	00, 6.64it	:/s]	mAP5
9	0.677	all	182	715	0.923		0.91
е	Epoch	_	_		dfl_loss		Siz
0:	117/500 100%	80/8	0.6686 80 [00:13<00	9:00, 5.72	it/s]		128
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 6.89it	:/s]	mAP5
7	0.671	all	182	715	0.903		0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

۵.	118/500 100%		0.6774 80 [00:13<00			112	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	100% 	182	715	0.898 0.898	0.879	0.92
5	0.671	att	102	/15	0.090	0.079	0.92
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
•			0.6695			100	128
0:	100%		80 [00:13<00 Images			R	mAP5
0	mAP50-95):		6/6				ווואו ס
					0.934	0.858	0.92
3	0.687						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
			0.6742			133	128
0:	100%		80 [00:14<00				4.05
0	mAD50 05).		Images 6/6			R - /c1	mAP5
U	IIIAF 30 - 93).			715	0.924		0.92
1	0.672	4.00	102	, 13	0.32.	0.0.5	0.52
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	_						
	121/500	8.2G	0.664	0.4378	1.033	112	128
0:			80 [00:13<00				
			Images				mAP5
0	mAP50-95):		6/6				0.01
5	0.668	all	182	715	0.916	0.86	0.91
,		CDII mom	hov loss	cle loce	dfl loss	Instances	Siz
е	Еросп	GPU_IIIEIII	DOX_(055	C15_1055	u1t_t055	Tilstalices	312
	122/500	8 2/16	0.6582	e 4503	1 02	116	128
0:	100%		80 [00:13<00			110	120
•		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	100%	6/6	[00:00<00	:00, 6.73it	:/s]	
		all	182	715	0.923	0.861	0.91
9	0.676						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.	123/500		0.6613			116	128
0:	100%		80 [00:14<00 Images			R	mAP5
0	mAP50-95):		6/6				IIIAFJ
•		all	182	715	0.908	0.868	0.91
1	0.671						
1	0.671 Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
1 e		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
		_	box_loss				Siz 128
е	Epoch	8.32G 80/8	0.6609 80 [00:13<00	0.4306 0:00, 5.75	1.024 5it/s]	108	128
е	Epoch 124/500 100%	8.32G 80/8 Class	0.6609	0.4306 0:00, 5.75 Instances	1.024 5it/s] Box(P	108 R	

6	0.675	all	182	715	0.906	0.875	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/8	0.6569 30 [00:14<00	9:00, 5.68	it/s]		
Θ	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.81it	:/s]	
2	0.685	all	182	715	0.906	0.873	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	126/500 100%		0.6673 30 [00:13<00			115	128
0	mAP50-95):	Class	Images 6/6	Instances	Box(P		mAP5
1	0.674	all	182	715	0.929	0.853	0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0.	127/500 100%		0.6758 30 [00:14<00			148	128
		Class		Instances	Box(P	R/s1	mAP5
	0.674		182				0.92
		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	·		0.6576			224	128
		Class		Instances	Box(P	R	mAP5
0			6/6 182			0.873	0.92
6	0.688 Epoch	GPII mem	hox loss	cls loss	dfl loss	Instances	Siz
е	·	_	_	_	_		
0:	129/500 100%	80/8	0.6581 30 [00:13<00	9:00, 5.74	it/s]		128
Θ	mAP50-95):	Class	Images 6/6	<pre>Instances [00:00<00:</pre>	Box(P 00. 6.59it	R :/sl	mAP5
5	0.684	all		715	0.925		0.92
e		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	130/500 100%		0.6594 30 [00:13<00			99	128
0.		Class	Images 6/6	Instances	Box(P		mAP5
2	0.679	all	182		0.914		0.91
		GPU_mem	box loss	cls loss	dfl_loss	Instances	Siz

ο.	131/500 100%		0.6494 30 [00:13<0			109	128
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	100% 	182	715	:00, 6.84it 0.907		0.91
8	0.676	all	102	/13	0.907	0.004	0.91
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	132/500	8.22G	0.6562	0.4304	1.016	115	128
0:			30 [00:13<00				
					Box(P		mAP5
0	mAP50-95):				:00, 6.68it		0.01
5	0.678	all	182	/15	0.913	0.868	0.91
J		CDII	h 1	-1 - 1	461 1	T	C:-
0	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	122 /500	0.226	0 6471	0 4161	1 000	101	120
٥.			0.64/1 30 [00:13<00		1.008	131	128
0:	100%				Box(P	R	mAP5
0	mAP50-95):				:00, 6.83it		IIIAI J
				715	0.918		0.92
1	0.68						
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	_p						
	134/500	8.24G	0.6405	0.4155	1.006	105	128
0:			30 [00:13<00			103	120
					Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.95it	:/s]	
		all	182	715	0.924	0.867	0.92
2	0.677						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	135/500	8.44G	0.6561	0.4287	1.023	115	128
0:	100%		30 [00:13<00				
•	4DE0 05\				Box (P		mAP5
0	MAP50-95):	100% 			:00, 6.49it		0.03
2	0.687	att	182	715	0.933	0.863	0.93
		CDII mam	hay lass	ala lasa	df]].c.c	Tnotonoo	C:-
e	Epoch	GPU_mem	DOX_1055	CIS_LOSS	dfl_loss	Tils rances	Siz
c	126 /500	0.220	0 6503	0 4100	1 014	153	120
Ω.	136/500 100%		0.6503 30 [00:14<00			152	128
0:	100%		Images			R	mAP5
0	mAP50-95):				:00, 6.63it		IIIAI 3
		all	182	715	0.929	0.855	0.92
3	0.674		_	_	- -		
	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	1						
	137/500	8.28G	0.6476	0.4223	1.019	150	128
0:	100%		30 [00:13<00				
					Box(P	R	mAP5
0		Class	Images	Instances			mAP5

4	0.672	all	182	715	0.923	0.872	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:	138/500 100%		0.6506 80 [00:14<00			109	128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.46it	:/s]	mAP5
9	0.678	all					0.91
е			box_loss		_		
0:	139/500 100%	80/	0.6464 80 [00:14<00	9:00, 5.51	.it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.26it	:/s]	
8	0.685		182				
е	·	GPU_mem	_			Instances	
0:		80/	0.6469 80 [00:14<00	0:00, 5.51	.it/s]		128
0	mAP50-95):		Images 6/6 182		00, 6.75it	:/s]	mAP5 0.92
3	0.686						
е			box_loss		_		Siz
0:	141/500 100%		0.6342		it/s]		128
0					Day / D	D	A D.E.
U		Class	Images 6/6	<pre>Instances [00:00<00:</pre>	00, 6.69it	:/s]	
5	mAP50-95):	Class 100% all	Images 6/6 182	Instances [00:00<00: 715	00, 6.69it 0.939	0.842	0.92
	mAP50-95): 0.689 Epoch	Class 100% all	Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss	00, 6.69it 0.939 dfl_loss	0.842 Instances	0.92 Siz
5 e	mAP50-95):	Class 100% all GPU_mem 8.25G 80/	Images 6/6 182 box_loss 0.6326 80 [00:14<00	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61	00, 6.69it 0.939 dfl_loss 1.008	0.842 Instances	0.92 Siz 128
5 e	mAP50-95): 0.689 Epoch 142/500	Class 100% all GPU_mem 8.25G 80/ Class 100%	Images 6/6 182 box_loss 0.6326 80 [00:14<00 Images 6/6	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61 Instances [00:00<00:	00, 6.69it 0.939 dfl_loss 1.008 .it/s] Box(P 00, 6.73it	0.842 Instances 114 R	0.92 Siz 128 mAP5
5 e 0:	mAP50-95): 0.689 Epoch 142/500 100% mAP50-95): 0.678	Class 100% all GPU_mem 8.25G 80/ Class 100% all	Images 6/6 182 box_loss 0.6326 80 [00:14<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61 Instances [00:00<00: 715	00, 6.69it 0.939 dfl_loss 1.008 .it/s] Box(P 00, 6.73it 0.926	0.842 Instances 114 R 2/s] 0.844	0.92 Siz 128 mAP5 0.92
5 e 0:	mAP50-95): 0.689 Epoch 142/500 100% mAP50-95): 0.678 Epoch	Class 100% all GPU_mem 8.25G 80/ Class 100% all GPU_mem	Images 6/6 182 box_loss 0.6326 80 [00:14<00] Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61 Instances [00:00<00: 715 cls_loss	00, 6.69it 0.939 dfl_loss 1.008 .it/s] Box(P 00, 6.73it 0.926 dfl_loss	0.842 Instances 114 R 2/s] 0.844 Instances	0.92 Siz 128 mAP5 0.92 Siz
5 e 0: 0 2	mAP50-95): 0.689 Epoch 142/500 100% mAP50-95): 0.678	Class 100% all GPU_mem 8.25G	Images 6/6 182 box_loss 0.6326 80 [00:14<00] Images 6/6 182 box_loss 0.6505 80 [00:14<00]	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61 Instances [00:00<00: 715 cls_loss 0.4229 0:00, 5.62	00, 6.69it 0.939 dfl_loss 1.008 .it/s] Box(P 00, 6.73it 0.926 dfl_loss 1.016	[/s] 0.842 Instances 114 R [/s] 0.844 Instances	0.92 Siz 128 mAP5 0.92 Siz
5 e 0: 0 2	mAP50-95): 0.689 Epoch 142/500 100% mAP50-95): 0.678 Epoch 143/500	Class 100% all GPU_mem 8.25G	Images 6/6 182 box_loss 0.6326 80 [00:14<00] Images 6/6 182 box_loss 0.6505 80 [00:14<00] Images 6/6	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61 Instances [00:00<00: 715 cls_loss 0.4229 0:00, 5.62 Instances [00:00<00:	00, 6.69it 0.939 dfl_loss 1.008 .it/s] Box(P 00, 6.73it 0.926 dfl_loss 1.016 !it/s] Box(P 00, 6.83it	[/s] 0.842 Instances 114 R [/s] 0.844 Instances 139 R [/s]	0.92 Siz 128 mAP5 0.92 Siz 128 mAP5
5 e 0: 0 2 e	mAP50-95): 0.689 Epoch 142/500 100% mAP50-95): 0.678 Epoch 143/500 100%	Class 100% all GPU_mem 8.25G	Images 6/6 182 box_loss 0.6326 80 [00:14<00] Images 6/6 182 box_loss 0.6505 80 [00:14<00] Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.413 0:00, 5.61 Instances [00:00<00: 715 cls_loss 0.4229 0:00, 5.62 Instances [00:00<00: 715	00, 6.69it 0.939 dfl_loss 1.008 .it/s] Box(P 00, 6.73it 0.926 dfl_loss 1.016 eit/s] Box(P	Instances 114 R (/s] 0.844 Instances 139 R (/s] 0.861	0.92 Siz 128 mAP5 0.92 Siz

٥.	144/500 100%		0.6332 80 [00:14<00			96	128
		Class	Images	Instances	Box(P		mAP5
0	MAP50-95):	all	182	715	.00, 6.96it 0.959	0.83	0.92
5	0.681						
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	145/500	8.24G	0.6247	0.4082	0.9997	126	128
0:		80/8	80 [00:13<00	0:00, 5.77	7it/s]		
0	mAP50-95):				Box(P :00, 6.72i1		mAP5
		all			0.921	0.872	0.92
8	0.684						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	146/500	8.31G	0.6376	0.4158	1.007	150	128
0:	100%		80 [00:13<00				
0	mAP50-95):				Box(P 3.99i1∶80.	R -/s1	mAP5
				715	0.922		0.92
8	0.671						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
					1.009	86	128
0:	100%		80 [00:13<00 Tmages		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.58it	:/s]	
8	0.685	all	182	715	0.92	0.85	0.91
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
ο.	148/500 100%	8.13G	0.63 80 [00:13<0	0.411		94	128
0.	100%				Box(P	R	mAP5
0	mAP50-95):		6/6				
8	0.68	all	182	715	0.915	0.86	0.91
8	0.68 Epoch		182	715	0.915	0.86	
8 e	0.68 Epoch	all GPU_mem	182	715		0.86	0.91 Siz
е	Epoch 149/500	GPU_mem	182 box_loss 0.6259	715 cls_loss 0.4036	0.915 dfl_loss 1.006	0.86	
е	Epoch	GPU_mem 8.31G 80/8	182 box_loss 0.6259 80 [00:13<0	715 cls_loss 0.4036 9:00, 5.76	0.915 dfl_loss 1.006 Sit/s]	0.86 Instances	Siz 128
е	Epoch 149/500 100%	GPU_mem 8.31G 80/8 Class 100%	182 box_loss 0.6259 80 [00:13<00 Images 6/6	715 cls_loss 0.4036 9:00, 5.76 Instances [00:00<00:	0.915 dfl_loss 1.006 5it/s] Box(P :00, 6.15it	0.86 Instances 111 R	Siz 128 mAP5
e 0:	Epoch 149/500 100%	GPU_mem 8.31G 80/8 Class	182 box_loss 0.6259 80 [00:13<00 Images	715 cls_loss 0.4036 0:00, 5.76 Instances	0.915 dfl_loss 1.006 5it/s] Box(P	0.86 Instances 111 R	Siz 128
e 0: 0	Epoch 149/500 100% mAP50-95):	GPU_mem 8.31G 80/8 Class 100%	182 box_loss 0.6259 80 [00:13<00 Images 6/6 182	715 cls_loss 0.4036 0:00, 5.76 Instances [00:00<00: 715	0.915 dfl_loss 1.006 5it/s] Box(P :00, 6.15it	0.86 Instances 111 R 2/s] 0.855	Siz 128 mAP5
e 0: 0	Epoch 149/500 100% mAP50-95): 0.685 Epoch	GPU_mem 8.31G 80/8 Class 100% Class all GPU_mem	182 box_loss 0.6259 80 [00:13<00 Images 6/6 182 box_loss	715 cls_loss 0.4036 0:00, 5.76 Instances [00:00<00: 715 cls_loss	0.915 dfl_loss 1.006 5it/s] Box(P :00, 6.15it 0.931 dfl_loss	0.86 Instances 111 R [/s] 0.855 Instances	Siz 128 mAP5 0.91
e 0: 0 8	Epoch 149/500 100% mAP50-95): 0.685 Epoch 150/500	GPU_mem 8.31G 80/8 Class 100% GPU_mem 8.13G	182 box_loss 0.6259 80 [00:13<00 Images 6/6 182 box_loss	715 cls_loss 0.4036 9:00, 5.76 Instances [00:00<00: 715 cls_loss 0.4071	0.915 dfl_loss 1.006 5it/s] Box(P :00, 6.15it 0.931 dfl_loss 0.9959	0.86 Instances 111 R [/s] 0.855 Instances	Siz 128 mAP5 0.91
e 0: 0 8	Epoch 149/500 100% mAP50-95): 0.685 Epoch	GPU_mem 8.31G 80/8 Class 100%	182 box_loss 0.6259 80 [00:13<00 Images 6/6 182 box_loss	715 cls_loss 0.4036 9:00, 5.76 Instances [00:00<00: 715 cls_loss 0.4071 9:00, 5.71	0.915 dfl_loss 1.006 5it/s] Box(P :00, 6.15it 0.931 dfl_loss 0.9959 lit/s]	0.86 Instances 111 R [/s] 0.855 Instances	Siz 128 mAP5 0.91

1	0.679	all	182	715	0.922	0.86	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/	0.6303 80 [00:13<00	9:00, 5.75	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.60it	:/s]	mAP5
6	0.686	all				0.86	
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	152/500 100%	80/	0.6154 80 [00:13<00	9:00, 5.73	sit/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.33it	:/s]	
7	0.675	all	182	715	0.936	0.837	0.91
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	153/500 100%		0.6232 80 [00:13<00			162	128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.77it	:/s]	
6	0.689	all	182				
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 -	154/500	8.37G	0.6249			133	128
⊍:	100%						
	mAP50-95):	Class 100%	Images 6/6	<pre>Instances [00:00<00:</pre>	Box(P 00, 6.85it	:/s]	
	mAP50-95):	Class 100% all	Images 6/6 182	Instances [00:00<00: 715	Box(P 00, 6.85it 0.93	0.852	0.92
0	mAP50-95):	Class 100% all	Images 6/6	Instances [00:00<00: 715	Box(P 00, 6.85it 0.93	0.852	0.92
0 2 e	mAP50-95): 0.679 Epoch	Class 100% all GPU_mem 8.22G 80/	Images 6/6 182 box_loss 0.6226 80 [00:13<00	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75	Box(P 00, 6.85it 0.93 dfl_loss 1.002	0.852 Instances	0.92 Siz 128
0 2 e	mAP50-95): 0.679 Epoch 155/500 100%	Class 100% all GPU_mem 8.22G 80/ Class 100%	Images 6/6 182 box_loss 0.6226 80 [00:13<00 Images 6/6	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75 Instances [00:00<00:	Box(P 00, 6.85it 0.93 dfl_loss 1.002 it/s] Box(P 00, 6.89it	0.852 Instances 151 R	0.92 Siz 128 mAP5
0 2 e	mAP50-95): 0.679 Epoch 155/500 100% mAP50-95): 0.676	Class 100% all GPU_mem 8.22G 80/ Class 100% all	Images 6/6 182 box_loss 0.6226 80 [00:13<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75 Instances [00:00<00: 715	Box(P 00, 6.85it 0.93 dfl_loss 1.002 it/s] Box(P 00, 6.89it 0.919	0.852 Instances 151 R 2/s] 0.855	0.92 Siz 128 mAP5 0.91
0 2 e 0:	mAP50-95): 0.679 Epoch 155/500 100% mAP50-95): 0.676	Class 100% all GPU_mem 8.22G 80/ Class 100% all	Images 6/6 182 box_loss 0.6226 80 [00:13<00 Images 6/6	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75 Instances [00:00<00: 715	Box(P 00, 6.85it 0.93 dfl_loss 1.002 it/s] Box(P 00, 6.89it 0.919	0.852 Instances 151 R 2/s] 0.855	0.92 Siz 128 mAP5 0.91
0 2 e 0: 0 7	mAP50-95): 0.679 Epoch 155/500 100% mAP50-95): 0.676	Class 100% all GPU_mem 8.22G 80/ Class 100% all GPU_mem 8.22G 80/	Images 6/6 182 box_loss 0.6226 80 [00:13<00] Images 6/6 182 box_loss 0.6125 80 [00:14<00]	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.3969 0:00, 5.65	Box(P 00, 6.85it 0.93 dfl_loss 1.002 it/s] Box(P 00, 6.89it 0.919 dfl_loss 0.9928	0.852 Instances 151 R (/s] 0.855 Instances	0.92 Siz 128 mAP5 0.91
0 2 e 0: 0 7	mAP50-95): 0.679 Epoch 155/500 100% mAP50-95): 0.676 Epoch 156/500 100%	Class 100% all GPU_mem 8.22G 80/ Class 100% all GPU_mem 8.22G 80/ Class 100% 80/	Images 6/6 182 box_loss 0.6226 80 [00:13<0] Images 6/6 182 box_loss 0.6125 80 [00:14<0] Images 6/6	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.3969 0:00, 5.65 Instances [00:00<00:	Box(P 00, 6.85it 0.93 dfl_loss 1.002 it/s] Box(P 00, 6.89it 0.919 dfl_loss 0.9928 it/s] Box(P 00, 6.64it	0.852 Instances 151 R 2/s] 0.855 Instances 100 R	0.92 Siz 128 mAP5 0.91 Siz 128 mAP5
0 2 e 0: 0 7 e	mAP50-95): 0.679 Epoch 155/500 100% mAP50-95): 0.676 Epoch 156/500 100% mAP50-95): 0.686	Class 100% all GPU_mem 8.22G 80/ Class 100% all GPU_mem 8.22G 80/ Class 100% all	Images 6/6 182 box_loss 0.6226 80 [00:13<0] Images 6/6 182 box_loss 0.6125 80 [00:14<0] Images	Instances [00:00<00: 715 cls_loss 0.4037 0:00, 5.75 Instances [00:00<00: 715 cls_loss 0.3969 0:00, 5.65 Instances [00:00<00: 715	Box(P 00, 6.85it 0.93 dfl_loss 1.002 it/s] Box(P 00, 6.89it 0.919 dfl_loss 0.9928 it/s] Box(P 00, 6.64it 0.951	0.852 Instances 151 R 2/s] 0.855 Instances 100 R 2/s] 0.84	0.92 Siz 128 mAP5 0.91 Siz 128 mAP5 0.92

ο.	157/500 100%				0.9963	146	128
		Class	Images	Instances	Box(P :00, 6.47it	R	mAP5
0	IIIAP30-93):	all	182	715	0.932	0.865	0.92
1	0.684						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
					0.9993	153	128
0:	100%					D	mAP5
0	mAP50-95):				Box(P :00, 6.49it		IIIAFJ
_	0.60	all	182	715	0.938	0.848	0.92
5	0.68	CDII mom	hay laga	ala lasa	d£1 1000	Tnotonoo	C÷-
е	Epocn	GPU_mem	DOX_LOSS	CLS_LOSS	dfl_loss	instances	Siz
•					0.994	120	128
⊍:	100%				Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00	:00, 6.93it	:/s]	
9	0.684	all	182	715	0.922	0.881	0.92
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	160/500	8.21G	0.6099	0.3993	0.9937	87	128
0:	100%	80/8	30 [00:13<0	0:00, 5.72	2it/s]		
0	mAP50-95):				Box(P :00, 6.87it		mAP5
2	0.685	all	182	715	0.921	0.865	0.92
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0.	161/500 100%		0.6216 30 [00:13<0			124	128
٥.		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				00, 6.51it		0.00
3	0.68	all	182	715	0.935	0.852	0.92
_		GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	·	_	-		_ '		
•	162/500		0.6141			111	128
Θ:	100%		30 [00:13<00 Tmages		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.79it	:/s]	
9	0.684	all	182	715	0.926	0.855	0.92
6	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	163/500	8.25G	0.62	A 3086	0.9947	110	128
0:	100%	80/8	30 [00:14<0	0:00, 5.73	lit/s]		120
					Box(P		mAP5
^	A DEO OE \	10001		00.00.00	:00, 6.60it	. / - 1	

8	0.679	all	182	715	0.914	0.867	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	164/500 100%	80/	0.6108 80 [00:14<00	0:00, 5.64	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.49it	:/s]	mAP5
4	0.688	all			0.915		0.92
е		_	box_loss				Siz
0:	165/500 100%	80/	0.6074 80 [00:14<00	0:00, 5.65	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.47it	_	
6	0.684		182				
е		GPU_mem	_	_		Instances	
0:		80/	0.6145 80 [00:13<00	0:00, 5.72	it/s]		
0	mAP50-95):		Images 6/6 182		00, 6.58it		mAP5 0.92
7	0.683						
е		_	box_loss				Siz
0:		8.39G	0.6107	0.3937		142	128
	100%		80 [00:14<00			n	A D.E.
		Class 100%	Images 6/6	<pre>Instances [00:00<00:</pre>	Box(P 00, 6.70it	:/s]	mAP5
	mAP50-95):	Class 100% all	Images 6/6 182	Instances [00:00<00: 715	Box(P 00, 6.70it 0.915	0.867	0.92
0	mAP50-95): 0.68 Epoch	Class 100% all	Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss	Box(P 00, 6.70it 0.915 dfl_loss	0.867 Instances	0.92 Siz
0 3 e	mAP50-95):	Class 100% all GPU_mem 8.26G	Images 6/6 182 box_loss 0.5976 80 [00:13<06	Instances [00:00<00: 715 cls_loss 0.3828 0:00, 5.80	Box(P 00, 6.70it 0.915 dfl_loss 0.9807	0.867 Instances 96	0.92 Siz 128
0 3 e	mAP50-95): 0.68 Epoch 168/500 100%	Class 100% all GPU_mem 8.26G 80/ Class 100%	Images 6/6 182 box_loss 0.5976 80 [00:13<06 Images 6/6	Instances [00:00<00: 715 cls_loss 0.3828 0:00, 5.80 Instances [00:00<00:	Box(P 00, 6.70it 0.915 dfl_loss 0.9807 it/s] Box(P 00, 6.78it	0.867 Instances 96 R	0.92 Siz 128 mAP5
0 3 e	mAP50-95): 0.68 Epoch 168/500 100% mAP50-95): 0.69	Class 100% all GPU_mem 8.26G 80/ Class 100% all	Images 6/6 182 box_loss 0.5976 80 [00:13<06 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.3828 0:00, 5.80 Instances [00:00<00: 715	Box(P 00, 6.70it 0.915 dfl_loss 0.9807 it/s] Box(P 00, 6.78it 0.904	0.867 Instances 96 R (/s] 0.872	0.92 Siz 128 mAP5 0.92
0 3 e 0:	mAP50-95): 0.68 Epoch 168/500 100% mAP50-95): 0.69 Epoch	Class 100% all GPU_mem 8.26G 80/ Class 100% all GPU_mem	Images 6/6 182 box_loss 0.5976 80 [00:13<06 Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 0.3828 0:00, 5.80 Instances [00:00<00: 715 cls_loss	Box(P 00, 6.70it 0.915 dfl_loss 0.9807 it/s] Box(P 00, 6.78it 0.904 dfl_loss	0.867 Instances 96 R (/s] 0.872 Instances	0.92 Siz 128 mAP5 0.92
0 3 e 0: 0 3	mAP50-95): 0.68 Epoch 168/500 100% mAP50-95): 0.69	Class 100%	Images 6/6 182 box_loss 0.5976 00:13<06 Images 6/6 182 box_loss 0.613 80 [00:14<06	Instances [00:00<00: 715 cls_loss 0.3828 0:00, 5.80 Instances [00:00<00: 715 cls_loss 0.3941 0:00, 5.70	Box(P 00, 6.70it 0.915 dfl_loss 0.9807 it/s] Box(P 00, 6.78it 0.904 dfl_loss 0.9949	0.867 Instances 96 R 7/s] 0.872 Instances	0.92 Siz 128 mAP5 0.92 Siz
0 3 e 0: 0 3	mAP50-95): 0.68 Epoch 168/500 100% mAP50-95): 0.69 Epoch 169/500	Class 100%	Images 6/6 182 box_loss 0.5976 80 [00:13<06 Images 6/6 182 box_loss 0.613 80 [00:14<06 Images 6/6	Instances [00:00<00: 715 cls_loss 0.3828):00, 5.80 Instances [00:00<00: 715 cls_loss 0.3941):00, 5.70 Instances [00:00<00:	Box(P 00, 6.70it 0.915 dfl_loss 0.9807 it/s] Box(P 00, 6.78it 0.904 dfl_loss 0.9949 it/s] Box(P 00, 6.56it	0.867 Instances 96 R :/s] 0.872 Instances 125 R	0.92 Siz 128 mAP5 0.92 Siz 128 mAP5
0 3 e 0: 0 3 e	mAP50-95): 0.68 Epoch 168/500 100% mAP50-95): 0.69 Epoch 169/500 100% mAP50-95): 0.685	Class 100%	Images 6/6 182 box_loss 0.5976 00:13<06 Images 6/6 182 box_loss 0.613 80 [00:14<06 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.3828 0:00, 5.80 Instances [00:00<00: 715 cls_loss 0.3941 0:00, 5.70 Instances [00:00<00: 715	Box(P 00, 6.70it 0.915 dfl_loss 0.9807 it/s] Box(P 00, 6.78it 0.904 dfl_loss 0.9949 it/s] Box(P 00, 6.56it	0.867 Instances 96 R (/s] 0.872 Instances 125 R (/s] 0.853	0.92 Siz 128 mAP5 0.92 Siz

0:	170 / 500						
0.			0.6101 80 [00:13<0			89	128
0		Class	Images 6/6	Instances	Box(P	R -/s1	mAP5
		all	182	715	0.913	0.865	0.92
6	0.686	CDII			163. 3	- .	6.1
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 -			0.6073			113	128
⊍:	100%		80 [00:14<00 Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.96it	:/s]	0.0
3	0.687	all	182	/15	0.915	0.86	0.9
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0:			0.6036 80 [00:14<0			130	128
0.		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):		182			0.873	0.92
3	0.683	acc	102	713	0.097	0.075	0.92
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	170 (500	0.400	0 5000	0.000	0.000	150	100
0:			0.5989 80 [00:13<0			153	128
		Class	Images	Instances	Box(P		mAP5
0	MAP50-95):	100%	6/6	[00:00<00:	:00, 6./911	[/S]	
		all	182		0.926	0.855	0.92
1	0.691	all	182	715	0.926	0.855	0.92
			182 box_loss	715			0.92 Siz
1 e	Epoch	GPU_mem	box_loss	715 cls_loss	dfl_loss	Instances	Siz
е		GPU_mem 8.21G 80/	box_loss 0.5998 80 [00:13<0	715 cls_loss 0.3869 9:00, 5.77	dfl_loss 0.9907 7it/s]	Instances 92	Siz
e 0:	Epoch 174/500 100%	GPU_mem 8.21G 80/ Class	0.5998 80 [00:13<0 Images	715 cls_loss 0.3869 9:00, 5.77 Instances	dfl_loss 0.9907 7it/s] Box(P	Instances 92 R	Siz
е	Epoch 174/500 100%	GPU_mem 8.21G 80/ Class	box_loss 0.5998 80 [00:13<0	715 cls_loss 0.3869 9:00, 5.77 Instances	dfl_loss 0.9907 7it/s] Box(P	Instances 92 R	Siz
e 0:	Epoch 174/500 100% mAP50-95): 0.687	GPU_mem 8.21G 80/ Class 100% 100%	box_loss 0.5998 80 [00:13<0 Images 6/6 182	715 cls_loss 0.3869 0:00, 5.77 Instances [00:00<00: 715	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927	Instances 92 R E/s] 0.847	Siz 128 mAP5 0.91
e 0: 0	Epoch 174/500 100% mAP50-95):	GPU_mem 8.21G 80/ Class 100%	box_loss 0.5998 80 [00:13<0 Images 6/6 182	715 cls_loss 0.3869 0:00, 5.77 Instances [00:00<00: 715	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it	Instances 92 R E/s] 0.847	Siz 128 mAP5
e 0: 0	Epoch 174/500 100% mAP50-95): 0.687 Epoch	GPU_mem 8.21G 80/ Class 100% 100 all GPU_mem	box_loss 0.5998 80 [00:13<0] Images 6/6 182 box_loss	715 cls_loss 0.3869 0:00, 5.77 Instances [00:00<00: 715 cls_loss	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss	Instances 92 R 7/s] 0.847 Instances	Siz 128 mAP5 0.91
e 0: 0	Epoch 174/500 100% mAP50-95): 0.687	GPU_mem 8.21G 80/ Class 100% all GPU_mem 8.31G 80/	box_loss 0.5998 80 [00:13<00] Images 6/6 182 box_loss 0.5966 80 [00:13<00]	715 cls_loss 0.3869 9:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 9:00, 5.75	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s]	Instances 92 R 7/s] 0.847 Instances 113	Siz 128 mAP5 0.91 Siz 128
e 0: 0	Epoch 174/500 100% mAP50-95): 0.687 Epoch 175/500 100%	GPU_mem 8.21G 80/ Class 100% 100 all GPU_mem 8.31G 80/ Class	box_loss 0.5998 80 [00:13<0] Images 6/6 182 box_loss 0.5966 80 [00:13<0] Images	715 cls_loss 0.3869 0:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 0:00, 5.75 Instances	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s] Box(P	Instances 92 R 7/s] 0.847 Instances 113 R	Siz 128 mAP5 0.91
e 0: 0 8 e 0: 0	Epoch 174/500 100% mAP50-95): 0.687 Epoch 175/500 100% mAP50-95):	GPU_mem 8.21G 80/ Class 100% 100 all GPU_mem 8.31G 80/ Class	box_loss 0.5998 80 [00:13<00] Images 6/6 182 box_loss 0.5966 80 [00:13<00]	715 cls_loss 0.3869 0:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 0:00, 5.75 Instances	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s] Box(P	Instances 92 R 7/s] 0.847 Instances 113 R	Siz 128 mAP5 0.91 Siz 128
e 0: 0 8	Epoch 174/500 100% mAP50-95): 0.687 Epoch 175/500 100% mAP50-95): 0.689	GPU_mem 8.21G	box_loss 0.5998 80 [00:13<0] Images 6/6 182 box_loss 0.5966 80 [00:13<0] Images 6/6 182	715 cls_loss 0.3869 9:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 9:00, 5.75 Instances [00:00<00: 715	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s] Box(P :00, 6.58it 0.927	Instances 92 R 7/s] 0.847 Instances 113 R 7/s] 0.85	Siz 128 mAP5 0.91 Siz 128 mAP5 0.92
e 0: 0 8 e 0: 0	Epoch 174/500 100% mAP50-95): 0.687 Epoch 175/500 100% mAP50-95):	GPU_mem 8.21G	box_loss 0.5998 80 [00:13<0] Images 6/6 182 box_loss 0.5966 80 [00:13<0] Images 6/6 182	715 cls_loss 0.3869 9:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 9:00, 5.75 Instances [00:00<00: 715	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s] Box(P :00, 6.58it	Instances 92 R 7/s] 0.847 Instances 113 R 7/s] 0.85	Siz 128 mAP5 0.91 Siz 128 mAP5
e 0: 0 8 e 0: 0 3 e	Epoch 174/500 100% mAP50-95): 0.687 Epoch 175/500 100% mAP50-95): 0.689 Epoch 176/500	GPU_mem 8.21G 80/ Class 100% all GPU_mem 8.31G 80/ Class 100% all GPU_mem 8.26G	box_loss 0.5998 80 [00:13<0] Images 6/6 182 box_loss 0.5966 80 [00:13<0] Images 6/6 182 box_loss 0.6047	715 cls_loss 0.3869 0:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 0:00, 5.75 Instances [00:00<00: 715 cls_loss	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s] Box(P :00, 6.58it 0.927 dfl_loss 0.9815	Instances 92 R 7/s] 0.847 Instances 113 R 7/s] 0.85 Instances	Siz 128 mAP5 0.91 Siz 128 mAP5 0.92
e 0: 0 8 e 0: 0 3 e	Epoch 174/500 100% mAP50-95): 0.687 Epoch 175/500 100% mAP50-95): 0.689 Epoch	GPU_mem 8.21G	box_loss 0.5998 80 [00:13<0] Images 6/6 182 box_loss 0.5966 80 [00:13<0] Images 6/6 182 box_loss	715 cls_loss 0.3869 9:00, 5.77 Instances [00:00<00: 715 cls_loss 0.3891 9:00, 5.75 Instances [00:00<00: 715 cls_loss	dfl_loss 0.9907 7it/s] Box(P :00, 6.64it 0.927 dfl_loss 0.9876 5it/s] Box(P :00, 6.58it 0.927 dfl_loss 0.9815	Instances 92 R 7/s] 0.847 Instances 113 R 7/s] 0.85 Instances	Siz 128 mAP5 0.91 Siz 128 mAP5 0.92 Siz

9	0.692	all	182	715	0.924	0.855	0.91
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:	177/500 100%	80/	0.5837 80 [00:14<00	9:00, 5.70	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.63it	:/s]	mAP5
4	0.694	all			0.927		
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/	0.5951 80 [00:14<00	9:00, 5.67	it/s]		128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.77it	:/s]	
1	0.681		182				
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/	0.6006 80 [00:14<00	9:00, 5.70	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.73it	:/s]	
2	0.685	all			0.931		
е			box_loss	_	_		Siz
	100/500	0 200	0 E0EE	0.30	0.9869	179	128
0:		80/	80 [00:13<00	9:00, 5.73	Bit/s]		
	100%	80/8 Class 100%	80 [00:13<00 Images 6/6	0:00, 5.73 Instances [00:00<00:	Bit/s] Box(P 00, 6.72it	:/s]	
	mAP50-95): 0.694	80/ Class 100%	80 [00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715	Bit/s] Box(P 00, 6.72it 0.923	0.865	0.92
0	mAP50-95): 0.694 Epoch	80/ Class 100% all	80 [00:13<00 Images 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss	0.865 Instances	0.92 Siz
0 1 e	mAP50-95): 0.694	80/6 Class 100% all GPU_mem 8.24G	80 [00:13<00 Images 6/6 182 box_loss 0.5883 80 [00:13<00	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s]	0.865 Instances	0.92 Siz 128
0 1 e	100% mAP50-95): 0.694 Epoch 181/500 100%	80/3 Class 100%	80 [00:13<00 Images 6/6 182 box_loss 0.5883 80 [00:13<00 Images 6/6	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73 Instances [00:00<00:	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s] Box(P 00, 6.90it	0.865 Instances 146 R	0.92 Siz 128 mAP5
0 1 e	mAP50-95): 0.694 Epoch 181/500 100% mAP50-95): 0.694	80/3 Class 100% all GPU_mem 8.24G 80/3 Class 100% all	80 [00:13<00 Images 6/6 182 box_loss 0.5883 80 [00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73 Instances [00:00<00: 715	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s] Box(P 00, 6.90it 0.943	0.865 Instances 146 R 2/s] 0.857	0.92 Siz 128 mAP5 0.92
0 1 e 0:	mAP50-95): 0.694 Epoch 181/500 100% mAP50-95): 0.694 Epoch	80/6 Class 100%	80 [00:13<00 Images 6/6 182 box_loss 0.5883 80 [00:13<00 Images 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s] Box(P 00, 6.90it 0.943 dfl_loss	0.865 Instances 146 R 2/s] 0.857 Instances	0.92 Siz 128 mAP5 0.92 Siz
0 1 e 0: 0 7	mAP50-95): 0.694 Epoch 181/500 100% mAP50-95): 0.694	80/3 Class 100%	80 [00:13<00 Images 6/6 182 6 6 6 6 6 6 6 6 6	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3835 0:00, 5.75	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s] Box(P 00, 6.90it 0.943 dfl_loss dfl_loss	0.865 Instances 146 R 2/s] 0.857 Instances	0.92 Siz 128 mAP5 0.92 Siz
0 1 e 0: 0 7	mAP50-95): 0.694 Epoch 181/500 100% mAP50-95): 0.694 Epoch 182/500	80/3 Class 100%	80 [00:13<00 Images 6/6 182 box_loss 0.5883 80 [00:13<00 Images 6/6 182 box_loss 0.589 80 [00:13<00 Images 6/6 Images 6/6 182 182 182 182 182 183	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3835 0:00, 5.75 Instances [00:00<00:	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s] Box(P 00, 6.90it 0.943 dfl_loss 0.9811 bit/s] Box(P 00, 6.70it	0.865 Instances 146 R 2/s] 0.857 Instances 82 R	0.92 Siz 128 mAP5 0.92 Siz 128 mAP5
0 1 e 0: 0 7 e	100% mAP50-95): 0.694 Epoch 181/500 100% mAP50-95): 0.694 Epoch 182/500 100% mAP50-95): 0.683	80/3 Class 100%	80 [00:13<00 Images 6/6 182 box_loss 0.5883 80 [00:13<00 Images 6/6 182 box_loss 0.589 80 [00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3753 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3835 0:00, 5.75 Instances [00:00<00: 715	Bit/s] Box(P 00, 6.72it 0.923 dfl_loss 0.9792 Bit/s] Box(P 00, 6.90it 0.943 dfl_loss 0.9811 Box(P Box(P Box(P	0.865 Instances 146 R (/s] 0.857 Instances 82 R (/s] 0.862	0.92 Siz 128 mAP5 0.92 Siz

۵.	183/500 100%				0.9788	127	128
		Class	Images	Instances	Box(P :00, 6.17it	R	mAP5
		all	182	715	0.916	0.866	0.92
6	0.679						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
					0.9761	130	128
0:	100%					D	A D.E.
0	mΔP50-95)·	100%1	Images	Instances	Box(P :00, 6.61it	K ·/sl	mAP5
U	III/(1 30 33).				0.936	0.859	0.92
6	0.686						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
					0.9792	108	128
0:	100%					D	m A DE
0	mAP50-95):				Box(P :00, 6.76it		mAP5
	30 33,1				0.921		0.92
8	0.689						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
					0.9889	134	128
0:	100%					D	A D.E
0	mΔP50-05).				Box(P :00, 6.88it		mAP5
U	IIIAI 30 33).	all			0.923		0.92
9	0.687						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	187/500				0.9761	129	128
0:	100%		00:13<0			D	A D.E
0	mΔP50-05).				Box(P :00, 6.81it		mAP5
U	IIIAI 30 33).	all	182	715	0.919	0.88	0.93
1	0.689						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	188/500	8.22G		0.381		109	128
0:	100%		80 [00:14<0			_	4.05
0	mAD50 05).				Box(P :00, 5.67it	R . /c1	mAP5
U	IIIAP30-93):	all	182	715	0.934	0.862	0.92
7	0.684	acc	102	, 13	01331	01002	0132
	Epoch	GPU_mem	box loss	cls loss	dfl_loss	Instances	Siz
е	•	_	_	_	_		
	189/500		0.5829			90	128
0:	100%		00:13<0			-	
0	mAD50 05\.		Images		Box(P :00, 6.84it	R . / c 1	mAP5
1.1		1006	0/0	100:00<00	.00. 0.8411	./51	

1	0.69	all	182	715	0.925	0.874	0.93
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	190/500 100%	80/8	0.5683 30 [00:13<00	0:00, 5.76	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.98it		mAP5
4	0.699	all		715			0.93
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	191/500 100%	80/8	0.5796 30 [00:13<00	0:00, 5.74	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.77it		mAP5
4	0.686		182				
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/8	0.5749 30 [00:14<00	0:00, 5.67	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.86it		mAP5
3	0.689	all			0.934		
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	•	80/8	0.582 30 [00:14<00	0:00, 5.68	it/s]		128
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.70it		mAP5
7	0.691					0.862	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	194/500 100%		0.5745 30 [00:13<00	0:00, 5.74	it/s]	92	128
0	mAP50-95):	100%		[00:00<00:	00, 6.54it	:/s]	mAP5
3	0.69	all	182	715	0.929		0.9
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	195/500 100%	80/8	0.5846 30 [00:14<00	0:00, 5.69	it/s]		128
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 6.94it	:/s]	mAP5
4	0.69	all	182	715	0.929	0.86	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0:	100 /500	0 200					
0:					0.9686	113	128
	100%	Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	[00:00<00:	:00, 6.47it 0.936		0.93
1	0.696	J. 1			0.000		0.00
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
						107	128
0:	100%					D	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.83it	R t/s]	IIIAFJ
3	0.692	all	182	715	0.922	0.882	0.9
3		GPII mem	hov loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0_1110111	box_co33	0.03_0033	u1 (_ (033	Tilstalices	312
0.	198/500 100%				0.9755	150	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				:00, 6.02it 0.918		0.93
1	0.691	att	102	/13	0.910	0.00	0.93
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
					0.9754 Bit/sl	119	128
0:	100%	80/8 Class	00:13<00 Images	0:00, 5.73 Instances	Bit/s] Box(P	R	128 mAP5
0:	100%	80/8 Class 100%	80 [00:13<00 Images 6/6	9:00, 5.73 Instances [00:00<00:	Bit/s] Box(P :00, 6.65it	R t/s]	mAP5
0:	100%	80/8 Class	80 [00:13<00 Images 6/6	9:00, 5.73 Instances [00:00<00:	Bit/s] Box(P :00, 6.65it	R	mAP5
0: 0	mAP50-95): 0.69	80/8 Class 100% all	00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715	Box(P :00, 6.65it 0.924	R t/s]	mAP5 0.92
0:	mAP50-95): 0.69 Epoch	Class 100% all	00:13<00 Images 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss	R t/s] 0.868 Instances	mAP5 0.92 Siz
0: 0 9	mAP50-95): 0.69	80/8 Class 100%	00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673	R t/s] 0.868 Instances	mAP5 0.92
0: 0 9 e	100% mAP50-95): 0.69 Epoch 200/500 100%	Class 100% all GPU_mem 7.86G 80/8	00:13<00 Images 6/6 182 box_loss 0.5715 0 [00:13<00 Images	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.72 Instances	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P	R t/s] 0.868 Instances 144 R	mAP5 0.92 Siz
0: 0 9	100% mAP50-95): 0.69 Epoch 200/500 100%	Class 100% all GPU_mem 7.86G 80/8	00:13<00 Images 6/6 182 box_loss 0.5715 0 [00:13<00 Images	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.72 Instances	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s]	R t/s] 0.868 Instances 144 R	mAP5 0.92 Siz 128
0: 0 9 e	mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.72 Instances [00:00<00: 715	Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927	R t/s] 0.868 Instances 144 R t/s] 0.874	mAP5 0.92 Siz 128 mAP5 0.93
0: 0 9 e 0: 0	mAP50-95): 0.69 Epoch 200/500 100% mAP50-95):	Class 100% all GPU_mem 7.86G 80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.72 Instances [00:00<00: 715	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it	R t/s] 0.868 Instances 144 R t/s] 0.874	mAP5 0.92 Siz 128 mAP5
0: 0 9 e 0:	mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 0[00:13<00 Images 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances	mAP5 0.92 Siz 128 mAP5 0.93
0: 0 9 e 0: 0 6	mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 0.573 00:14<00	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.72 Instances [00:00<00: 715 cls_loss 0.37 0:00, 5.73	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s]	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances	mAP5 0.92 Siz 128 mAP5 0.93 Siz 128
0: 0 9 e 0: 0 6	100% mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch 201/500 100%	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.37 instances 100:00 100 100 100 100 100 100 100 100	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s] Box(P	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances	mAP5 0.92 Siz 128 mAP5 0.93
0: 0 9 e 0: 0 6	100% mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch 201/500 100% mAP50-95):	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.37 instances 100:00 100 100 100 100 100 100 100 100	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s] Box(P :00, 6.82it	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances	mAP5 0.92 Siz 128 mAP5 0.93 Siz 128
0: 0 9 e 0: 0 6	100% mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch 201/500 100% mAP50-95): 0.694	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 6/6 182 box_loss 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.37 0:00, 5.73 Instances [00:00<00: 715	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s] Box(P :00, 6.82it 0.92	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances 85 R t/s] 0.88	mAP5 0.92 Siz 128 mAP5 0.93 Siz 128 mAP5 0.92
0: 0 9 e 0: 0 6	100% mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch 201/500 100% mAP50-95):	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 6/6 182 box_loss 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.37 0:00, 5.73 Instances [00:00<00: 715	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s] Box(P :00, 6.82it	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances 85 R t/s] 0.88	mAP5 0.92 Siz 128 mAP5 0.93 Siz 128 mAP5
0: 0 9 e 0: 0 6	mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch 201/500 100% mAP50-95): 0.694 Epoch 202/500	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 0.573 6/6 182 box_loss 6/6 182 box_loss 6/6 182	0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s] Box(P :00, 6.82it 0.92 dfl_loss	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances 85 R t/s] 0.88 Instances	mAP5 0.92 Siz 128 mAP5 0.93 Siz 128 mAP5 0.92
0: 0 9 e 0: 0 6	mAP50-95): 0.69 Epoch 200/500 100% mAP50-95): 0.698 Epoch 201/500 100% mAP50-95): 0.694 Epoch	80/8 Class 100%	00:13<00 Images 6/6 182 box_loss 0.5715 00:13<00 Images 6/6 182 box_loss 0.573 6/6 182 box_loss 0.573 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3681 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.37 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.37 0:00, 5.73 Instances [00:00<00: 715 cls_loss	Bit/s] Box(P :00, 6.65it 0.924 dfl_loss 0.9673 2it/s] Box(P :00, 6.78it 0.927 dfl_loss 0.97 lit/s] Box(P :00, 6.82it 0.92 dfl_loss 0.9697 Bit/s]	R t/s] 0.868 Instances 144 R t/s] 0.874 Instances 85 R t/s] 0.88 Instances	mAP5 0.92 Siz 128 mAP5 0.93 Siz 128 mAP5 0.92 Siz

1	0.692	all	182	715	0.941	0.864	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	203/500 100%		0.578 80 [00:14<00			122	128
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.36it	:/s]	mAP5
6	0.692	all		715			0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:		80/8	0.5689 80 [00:14<00	9:00, 5.65	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.49it	_	
8	0.697		182				
е	·	_	box_loss	_	_		Siz
0:		80/8	0.5722 80 [00:13<00	9:00, 5.73	it/s]		
0	mAP50-95):	100%	Images 6/6	[00:00<00:	00, 6.66it	:/s]	
3	0.697			715		0.874	
е		GPU_mem	box_loss				Siz
					0 0760	113	128
0:		80/8	0.5699 80 [00:13<00	9:00, 5.76	it/s]		
	100%	80/8 Class 100%	80 [00:13<00 Images 6/6	0:00, 5.76 Instances [00:00<00:	Box(P Box(P 00, 6.82it	R :/s]	mAP5
	mAP50-95): 0.689	80/3 Class 100%	80 [00:13<00 Images 6/6 182	0:00, 5.76 Instances [00:00<00: 715	Box(P 00, 6.82it 0.932	R [/s] 0.859	mAP5
0	mAP50-95): 0.689 Epoch	80/3 Class 100% all GPU_mem	80 [00:13<00 Images 6/6 182 box_loss	0:00, 5.76 Instances [00:00<00: 715 cls_loss	bit/s] Box(P 00, 6.82it 0.932 dfl_loss	R 2/s] 0.859 Instances	mAP5 0.92 Siz
0 6 e	mAP50-95): 0.689	80/3 Class 100% all GPU_mem 8.22G	80 [00:13<00 Images 6/6 182 box_loss 0.5733 80 [00:13<00	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73	dit/s] Box(P 00, 6.82it 0.932 dfl_loss 0.9728	R 7/s] 0.859 Instances	mAP5 0.92 Siz 128
0 6 e	mAP50-95): 0.689 Epoch 207/500	80/3 Class 100%	80 [00:13<00 Images 6/6 182 6 6 6 6 6 6 6 6 6	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73 Instances [00:00<00:	dfl_loss 0.9728 00, 6.73it	R 2/s] 0.859 Instances 123 R	mAP5 0.92 Siz 128 mAP5
0 6 e	100% mAP50-95): 0.689 Epoch 207/500 100% mAP50-95): 0.694	80/3 Class 100%	80 [00:13<00 Images 6/6 182 6/6 182 6/6 182 6/6 Images 6/6 182 6	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73 Instances [00:00<00: 715	dfl_loss 0.9728 00, 6.73it 0.932	R 2/s] 0.859 Instances 123 R 2/s] 0.855	mAP5 0.92 Siz 128 mAP5 0.92
0 6 e 0:	100% mAP50-95): 0.689 Epoch 207/500 100% mAP50-95): 0.694 Epoch	80/3 Class 100%	80 [00:13<06 Images 6/6 182 box_loss 0.5733 80 [00:13<06 Images 6/6 182 box_loss	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73 Instances [00:00<00: 715 cls_loss	dfl_loss Box(P Box(P 00, 6.82it 0.932 0.9728 0.9728 0.9728 0.973it 0.939 0.939 0.939 0.939	R [/s] 0.859 Instances 123 R [/s] 0.855 Instances	mAP5 0.92 Siz 128 mAP5 0.92 Siz
0 6 e 0: 0 5	100% mAP50-95): 0.689 Epoch 207/500 100% mAP50-95): 0.694	80/3 Class 100%	80 [00:13<00 Images 6/6 182 6/6	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3596 0:00, 5.74	Box(P 00, 6.82it 0.932 dfl_loss 0.9728 dit/s] Box(P 00, 6.73it 0.939 dfl_loss 0.9592	R 2/s] 0.859 Instances 123 R 2/s] 0.855 Instances 111	mAP5 0.92 Siz 128 mAP5 0.92 Siz 128
0 6 e 0: 0 5	mAP50-95): 0.689 Epoch 207/500 100% mAP50-95): 0.694 Epoch 208/500	80/3 Class 100%	80 [00:13<00 Images	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3596 0:00, 5.74 Instances [00:00<00:	### Box(P #### Box(P ##### Box(P ##### Box(P ###### Box(P ####################################	R 2/s] 0.859 Instances 123 R 2/s] 0.855 Instances 111 R	mAP5 0.92 Siz 128 mAP5 0.92 Siz 128 mAP5
0 6 e 0: 5 e	100% mAP50-95): 0.689 Epoch 207/500 100% mAP50-95): 0.694 Epoch 208/500 100%	80/3 Class 100%	80 [00:13<06 Images 6/6 182 box_loss 0.5733 80 [00:13<06 Images 6/6 182 box_loss 0.5611 80 [00:13<06 Images 6/6 182	0:00, 5.76 Instances [00:00<00: 715 cls_loss 0.3704 0:00, 5.73 Instances [00:00<00: 715 cls_loss 0.3596 0:00, 5.74 Instances [00:00<00: 715	Box(P 00, 6.82it 0.932 dfl_loss 0.9728 it/s] Box(P 00, 6.73it 0.939 dfl_loss 0.9592 it/s] Box(P	R 2/s] 0.859 Instances 123 R 2/s] 0.855 Instances 111 R 2/s] 0.868	mAP5 0.92 Siz 128 mAP5 0.92 Siz 128

۵.	209/500 100%				0.9603	151	128
		Class	Images	Instances	Box(P :00, 6.62it	R	mAP5
		all	182	715	0.938	0.864	0.92
6	0.692	CDII			163. 3		0.1
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
					0.9638	125	128
0:	100%				lit/s] Box(P	D	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.36it	:/s]	IIIAI 3
		all			0.927	0.859	0.92
4	0.697						
0	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	211/500	0 200	0 565	0 2662	0.9637	125	128
0:	100%					123	120
					Box(P	R	mAP5
0	mAP50-95):				:00, 6.52it		0.00
1	0.696	all	182	/15	0.941	0.856	0.93
_	Epoch	GPII mem	hox loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0_1110111	box_co33	0.03_0033	u1 (_ (033	Thistances	312
	212/500	8.28G	0.5671	0.37	0.9627	130	128
0:	100%						
0	mADEO OE\.				Box(P:00, 6.64it		mAP5
U	IIIAP30-93):	all			0.939		0.92
7	0.694						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0	213/500				0.9718	134	128
⊍:	100%		0 [00:13<0		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 6.11it	:/s]	III/II 3
		all	182	715	0.937	0.863	0.92
5	0.689						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
-	214/500	8 286	0.5578	0 3576	0.9604	133	128
0:	100%		0.5576			155	120
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				:00, 6.55it		0.02
9	0.698	all	182	715		0.872	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	215/500	8.19G	0.5581	0.3586	0.9585	145	128
0:	100%		0 [00:13<0				
0	mΛD5Ω_Ω5\.				Box(P :00, 6.72it		mAP5
U	וותו שם שוווו	100.0	0/0	[00.00~00]	.00, 0.721	./ 5]	

7	0.688	all	182	715	0.93	0.86	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	216/500 100%	80/8		9:00, 5.71	it/s]		
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.63it		mAP5
5	0.693	all	182	715	0.913	0.867	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	217/500 100%		0.5573 30 [00:14<00			109	128
	mAP50-95):	Class	Images	Instances	Box(P	R :/s]	mAP5
	0.693	all			0.92		0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	218/500 100%		0.5533 30 [00:13<00			154	128
	mAP50-95):	Class	Images	Instances	Box(P	R :/s]	mAP5
	0.693		182				0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	219/500 100%		0.5516 30 [00:13<06			129	128
	mAP50-95):	Class	Images	Instances	Box(P	R :/s1	mAP5
8						0.857	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	220/500 100%		0.5688 30 [00:13<00			148	128
0		Class	Images 6/6	Instances	Box(P	R -/s1	mAP5
9	0.691	all		715	0.927		0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	221/500 100%		0.5585 30 [00:13<00			174	128
0		Class	Images 6/6	Instances	Box(P		mAP5
6	0.699	all	182		0.918		0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

۵.	222/500 100%		0.5521 30 [00:14<00		0.9555	103	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	715	00, 6.6811 0.936	0.86	0.92
6	0.696	CDU			167. 7	<u>.</u>	6.
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0.	223/500 100%				0.9681	119	128
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):			[00:00<00; 715		0.86	0.92
4	0.689						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
					0.95	144	128
0:	100%					R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00	00, 6.80it	:/s]	
5	0.692	all	182	715	0.892	0.887	0.92
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	225/500	8.22G	0.5439	0.3515	0.9582	130	128
0:	100%	80/8	30 [00:13<00	9:00, 5.74	lit/s]		
0	mAP50-95):				BOX(P :00, 6.14i1	R :/s]	mAP5
3	0.698	all	182	715	0.923	0.877	0.9
		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	226/500	0 200	0.5446	0 2500	0.9556	148	128
0:	100%	80/8	30 [00:13<00	9:00, 5.73	Bit/s]		120
0	mΔP50-95)·	Class	Images	Instances	Box(P :00, 6.65i1	R -/s1	mAP5
		all	182	715	0.929	0.867	0.92
4	0.688 Epoch	GPU mem	hoy loss	cle loss	dfl_loss	Instances	Siz
е	Еросп	di 0_iiiciii	box_co33	C C 3_ C O 3 3	411_(033	Thistances	312
	227/500					0.0	128
٥.			0.5633			93	120
0:	100%	80/8 Class	30 [00:14<00 Images	0:00, 5.71 Instances	lit/s] Box(P	R	mAP5
0:	100%	80/8 Class	30 [00:14<00 Images	0:00, 5.71 Instances	lit/s] Box(P :00, 6.80i1	R	mAP5
	mAP50-95):	80/8 Class 100% all	30 [00:14<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00; 715	Box(P 800, 6.80it 0.945	R [/s] 0.858	mAP5
0	100% mAP50-95):	80/8 Class 100%	30 [00:14<00 Images 6/6 182	0:00, 5.73 Instances [00:00<00; 715	lit/s] Box(P :00, 6.80i1	R [/s] 0.858	mAP5
0 7 e	mAP50-95): 0.688 Epoch 228/500	80/8 Class 100%	00:14<00 Images 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00; 715 cls_loss	Box(P Box(P 00, 6.80it 0.945 dfl_loss	R 2/s] 0.858 Instances	mAP5 0.92
0 7 e	mAP50-95): 0.688 Epoch	80/8 Class 100%	00:14<00 Images 6/6 182 box_loss	0:00, 5.73 Instances [00:00<00; 715 cls_loss 0.3532	Box(P Box(P 000, 6.80it 0.945 dfl_loss 0.956 Bit/s]	R 7/s] 0.858 Instances 94	mAP5 0.92 Siz

5	0.69	all	182	715	0.936	0.858	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	229/500 100%	80/8		9:00, 5.68	it/s]		
0	mAP50-95):	100%	6/6	[00:00<00:	00, 6.71it		mAP5
9	0.693	all	182	715	0.94	0.868	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	230/500 100%		0.5419 30 [00:14<00			126	128
	mAP50-95):	Class	Images	Instances	Box(P	R :/s]	mAP5
3	0.692	all	182	715	0.946	0.855	0.92
е		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	231/500 100%		0.5582 80 [00:14<00			108	128
	mAP50-95):	Class	Images	Instances	Box(P	R :/s1	mAP5
	0.689		182				0.92
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	232/500 100%		0.5363 80 [00:13<00			132	128
	mAP50-95):	Class	Images	Instances	Box(P	R/s1	mAP5
5				_		0.857	0.92
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
			0.551			125	128
0:	100% maps of \.	Class	30 [00:14<00 Images 6/6	Instances	Box(P	R	mAP5
8	0.685	all	182	715	0.915	0.88	0.92
		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	234/500		0.5476			123	128
	100%	Class	Images	Instances	Box(P		mAP5
5	0.689	all	182	715			0.92
e		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

	235/500	8.25G			0.9549	124	128
0:	100%		30 [00:13<00			_	
0	ADEO OE).				Box(P		mAP5
0	MAP50-95):	all	182	715	00, 6.77it 0.921	0.863	0.92
6	0.695	acc	102	713	0.921	0.005	0.92
	Epoch	GPU_mem	hov loss	cle loss	dfl_loss	Instances	Siz
е	Еросп	01 0_1110111	b0X_0033	0.03	u1 t_t033	instances	312
	236/500	8.21G	0.5481	0.352	0.9542	136	128
0:	100%					130	120
					Box(P	R	mAP5
0	mAP50-95):				00, 6.71it		
_	0.601	all	182	715	0.933	0.865	0.92
5	0.691						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0 -					0.9541	159	128
0:	100%				Box(P	D	mAP5
0	mAP50-95):				00, 6.68it		IIIAFS
		all			0.927	0.877	0.92
7	0.692						
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е			_	_	_		
					0.9534	156	128
0:	100%						
_	ADEQ OE)				Box(P		mAP5
0	mAP50-95):	100% 	182	715	00, 6.79it 0.947		0.92
5	0.693	acc	102	/13	0.947	0.001	0.92
		GPII mem	hov loss	cle loss	dfl loss	Instances	Siz
е	Еросп	or o_illelli	DOX_033	0.03	u1 (_ (033	instances	312
	239/500	8.21G	0.5422	0.3472	0.9585	170	128
0:	100%		30 [00:13<00			2,0	120
		Class		Instances	Box(P	R	mAP5
0	mAP50-95):			[00:00<00:			
2	0.604	all	182	715	0.941	0.868	0.9
3	0.694				167. 7		
_	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	240 (500	0.216	0 5507	0.2552	0.0613	120	120
0.	240/500	8.31G		0.3552	0.9613	138	128
0:	100%	Class	30 [00:14<00 Images	Instances	Box(P	R	mAP5
0	mAP50-95):			[00:00<00:			IIIAI 3
	,	all	182	715	0.938	0.878	0.92
8	0.693						

EarlyStopping: Training stopped early as no improvement observed in last 50 epochs. Best results observed at epoch 190, best model saved as best.pt. To update EarlyStopping(patience=50) pass a new patience value, i.e. `patience=300` or use `patience=0` to disable EarlyStopping.

240 epochs completed in 1.023 hours.

Optimizer stripped from vehicle-license-plate-detection\near-complete\imgsz1 280\weights\last.pt, 6.4MB

Optimizer stripped from vehicle-license-plate-detection\near-complete\imgsz1 280\weights\best.pt, 6.4MB

Validating vehicle-license-plate-detection\near-complete\imgsz1280\weights\b est.pt...

Ultralytics 8.3.131 Python-3.13.3 torch-2.7.0+cu128 CUDA:0 (NVIDIA GeForce RTX 5070 Ti, 16303MiB)

Model summary (fused): 72 layers, 3,006,038 parameters, 0 gradients, 8.1 GFL OPs

0	mAP50-95):	Class	Images 6/6	Instances [00:01<00:00,	Box(P 3.96it/s]	R	mAP5
		all	182	715	0.926	0.877	0.93
5	0.699						
2	0.627	carplate	181	259	0.962	0.882	0.93
2	0.627	vehicle	182	456	0.89	0.873	0.93
7	0.77	venitate	102	450	0.09	0.073	0.95

Speed: 0.2ms preprocess, 2.4ms inference, 0.0ms loss, 2.2ms postprocess per image

Results saved to **vehicle-license-plate-detection\near-complete\imgsz1280**Ultralytics 8.3.131 Python-3.13.3 torch-2.7.0+cu128 CPU (AMD Ryzen 7 9700X 8-Core Processor)

Model summary (fused): 72 layers, 3,006,038 parameters, 0 gradients, 8.1 GFL OPs

PyTorch: starting from 'vehicle-license-plate-detection\near-complete\imgsz1 280\weights\best.pt' with input shape (1, 3, 1280, 1280) BCHW and output shape(s) (1, 6, 33600) (6.1 MB)

ONNX: starting export with onnx 1.18.0 opset 19...

ONNX: slimming with onnxslim 0.1.52...

ONNX: export success 0.7s, saved as 'vehicle-license-plate-detection\near-c
omplete\imgsz1280\weights\best.onnx' (12.2 MB)

Export complete (0.9s)

Results saved to $C:\Users\herma\dev\IS\yolo\vehicle-license-plate-detection \near-complete\imgsz1280\weights$

Predict: yolo predict task=detect model=vehicle-license-plate-detect ion\near-complete\imgsz1280\weights\best.onnx imgsz=1280

Validate: yolo val task=detect model=vehicle-license-plate-detection \near-complete\imgsz1280\weights\best.onnx imgsz=1280 data=datasets/Vehicle-

License-Plate-Detection\data.yaml

Visualize: https://netron.app

Save Model Architecture & Hyperparamaters used

In [17]: os.makedirs(ARCHITECTURE DIR, exist ok=True)

🔟 Save hyperparameters as JSON

hyp path = os.path.join(ARCHITECTURE DIR, "hyperparameters.json")

```
with open(hyp_path, "w") as f:
    json.dump(HYPERPARAMS, f, indent=2)
print(f"→ Hyperparameters written to {hyp_path}")

# 2 Save the model architecture (as text)
arch_path = os.path.join(ARCHITECTURE_DIR, "model_architecture.txt")
with open(arch_path, "w") as f:
    f.write(str(model.model))
print(f"→ Model architecture written to {arch_path}")

# 3 (Optional) Copy the best weights over
best_weights = os.path.join(ARCHITECTURE_DIR, "weights", "best.onnx")
if os.path.isfile(best_weights):
    os.replace(best_weights, os.path.join(ARCHITECTURE_DIR, "best_{EXPERIMEN print("→ Copied best.onnx with custom name")
```

- → Hyperparameters written to vehicle-license-plate-detection\near-complete\important mgsz1280\architecture\hyperparameters.json
- → Model architecture written to vehicle-license-plate-detection\near-complet e\imgsz1280\architecture\model architecture.txt

Testing Dataset Evaluation

```
In [22]: if name == " main ":
             # 1 Load the model once, with task pre-declared
             model = YOLO(TRAINED MODEL WEIGHTS, task="detect")
             # 2 Evaluate at several confidence thresholds
             for conf in (0.25, 0.50, 0.75):
                 model.val(
                     data=DATA YAML,
                     split="test",
                     project=EVALUATION DIR, # root evaluation folder
                     name=f"{conf:.2f}",
                                                # e.g. "0.25", "0.50", "0.75"
                     exist ok=True,
                     workers=NUM OF WORKERS,
                     conf=conf,
                                                 # ← varying threshold
                     device=DEVICE,
                     save json=True,
                     half=False,
                     imgsz=IMAGE SIZE,
                 print(f"Finished evaluation at conf={conf:.2f}")
```

Ultralytics 8.3.131 Python-3.13.3 torch-2.7.0+cu128 CUDA:0 (NVIDIA GeForce RTX 5070 Ti, 16303MiB)
Loading vehicle-license-plate-detection\near-complete\imgsz1280\weights\best.onnx for ONNX Runtime inference...
Using ONNX Runtime CUDAExecutionProvider
Setting batch=1 input of shape (1, 3, 1280, 1280)
val: Fast image access (ping: 0.00.0 ms, read: 643.7660.5 MB/s, size: 669.0 KB)

val: Scanning C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-Plate-Dete ction\test\labels.cache... 253 images, 0 backgrounds, 0 corrupt: 100%

	253/253	[00:00 ,</th <th>?1t/s]</th> <th></th> <th></th> <th></th> <th></th>	?1t/s]				
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100%	253/	253 [00:02·	<00:00, 88.	04it/s]	
		all	253	1494	0.88	0.792	0.8
7	0.671						
		carplate	251	512	0.942	0.797	0.88
2	0.62						
		vehicle	253	982	0.818	0.786	0.85
8	0.722						

Speed: 0.4ms preprocess, 6.7ms inference, 0.0ms loss, 1.1ms postprocess per image

Saving vehicle-license-plate-detection\near-complete\imgsz1280\evaluation\0. 25\predictions.json...

Results saved to vehicle-license-plate-detection\near-complete\impsz1280\eva luation\0.25

Finished evaluation at conf=0.25

Ultralytics 8.3.131 Python-3.13.3 torch-2.7.0+cu128 CUDA:0 (NVIDIA GeForce RTX 5070 Ti, 16303MiB)

Loading vehicle-license-plate-detection\near-complete\imgsz1280\weights\bes t.onnx for ONNX Runtime inference...

Using ONNX Runtime CUDAExecutionProvider

Setting batch=1 input of shape (1, 3, 1280, 1280)

val: Fast image access (ping: 0.00.0 ms, read: 3017.91455.4 MB/s, size: 88 5.7 KB)

val: Scanning C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-Plate-Dete ction\test\labels.cache... 253 images, 0 backgrounds, 0 corrupt: 100%

	253/253	[00:00 ,</th <th>?it/s]</th> <th></th> <th></th> <th></th> <th></th>	?it/s]				
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100%	253	/253 [00:02	<00:00, 89.	36it/s]	
		all	253	1494	0.94	0.74	0.85
4	0.671						
		carplate	251	512	0.972	0.746	0.86
1	0.616						
		vehicle	253	982	0.908	0.734	0.84
6	0.727						

Speed: 0.4ms preprocess, 6.7ms inference, 0.0ms loss, 1.1ms postprocess per image

Saving vehicle-license-plate-detection\near-complete\imgsz1280\evaluation\0. 50\predictions.json...

Results saved to vehicle-license-plate-detection\near-complete\imgsz1280\eva luation\0.50

Finished evaluation at conf=0.50

Ultralytics 8.3.131 Python-3.13.3 torch-2.7.0+cu128 CUDA:0 (NVIDIA GeForce RTX 5070 Ti, 16303MiB)

Loading vehicle-license-plate-detection\near-complete\imgsz1280\weights\bes t.onnx for ONNX Runtime inference...

Using ONNX Runtime CUDAExecutionProvider

Setting batch=1 input of shape (1, 3, 1280, 1280)

val: Fast image access (ping: 0.00.0 ms, read: 2797.41519.1 MB/s, size: 32 0.3 KB)

<pre>val: Scanning C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-Plate-Dete ction\test\labels.cache 253 images, 0 backgrounds, 0 corrupt: 100% 253/253 [00:00<?, ?it/s]</pre></pre>							
0	 ·	Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	all	253/2 253	253 [00:02<0 1494	0:00, 91.15 0.98	0.636	0.80
9	0.656		233	1.5.	0.50	0.050	0.00
		carplate	251	512	0.988	0.623	0.80
3	0.59	vehicle	253	982	0.973	0.649	0.81
5	0.722	venitate	255	902	0.975	0.049	0.01

Speed: 0.4ms preprocess, 6.7ms inference, 0.0ms loss, 1.1ms postprocess per image

Saving vehicle-license-plate-detection \near-complete \impsz1280 \evaluation \0.75 \predictions.json...

Results saved to vehicle-license-plate-detection\near-complete\imgsz1280\evaluation\0.75

Finished evaluation at conf=0.75

This notebook was converted with convert.ploomber.io