Import necessary libraries

```
In [1]: import torch
    from ultralytics import YOLO
    import numpy as np
    import os
    import random
    import glob
    import shutil
    import json
    import yaml
    from pprint import pprint
    from pathlib import Path
```

Check CUDA availability

```
In [2]: # 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

CUDA Available: True
```

Device Name: NVIDIA GeForce RTX 5070 Ti

Global Configurations

```
In [3]: # 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 = "imgsz640"

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 [4]: NUMBER OF EPOCHS = 300
        IMAGE SIZE = 640
        BATCH SIZE = 16
        PATIENCE = 50
        NUM OF WORKERS = 8
In [5]: 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 which
            "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=300, 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, imgsz=640, int8=False, iou=0.7, keras =False, kobj=1.0, line width=None, lr0=0.01, lrf=0.01, mask ratio=4, max det =300, mixup=0.0, mode=train, model=yolo pretrained/yolov8n.pt, momentum=0.93 7, mosaic=1.0, multi scale=False, name=imgsz640, nbs=64, nms=False, opset=No ne, optimize=False, optimizer=auto, overlap mask=True, patience=50, perspect ive=0.0, plots=True, pose=12.0, pretrained=True, profile=False, project=vehi cle-license-plate-detection, rect=False, resume=False, retina masks=False, s ave=True, save conf=False, save crop=False, save dir=vehicle-license-plate-d etection\near-complete\imgsz640, save frames=False, save json=False, save pe riod=-1, save txt=False, scale=0.5, seed=0, shear=0.0, show=False, show boxe s=True, show conf=True, show labels=True, simplify=True, single cls=False, s ource=None, split=val, stream buffer=False, task=detect, time=None, tracker= botsort.yaml, translate=0.1, val=True, verbose=True, vid stride=1, visualize =False, warmup bias lr=0.1, warmup epochs=3.0, warmup momentum=0.8, weight d ecay=0.0005, workers=8, workspace=None

Overriding model.yaml nc=80 with nc=2

	rom	n	params	module
arguments	1	1	464	ultualutias un madulas conv. Conv.
0 [3, 16, 3, 2]	-1	Τ	404	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]	- 1	1	293424	uttratytics.iii.modutes.comv.comv
8	- 1	1	460288	ultralytics.nn.modules.block.C2f
[256, 256, 1, True]	- 1	1	164608	ultralytics.nn.modules.block.SPPF
[256, 256, 5]	_	_		
10	- 1	1	0	torch.nn.modules.upsampling.Upsample
[None, 2, 'nearest']		1	0	ultraluties no modules conv Concat
11 [-1, [1]	0]	1	0	ultralytics.nn.modules.conv.Concat
12	-1	1	148224	ultralytics.nn.modules.block.C2f
[384, 128, 1]				

```
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: 0.10.1 ms, read: 72.9105.7 MB/s, size: 297.
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, 68127.74it/s]
val: Fast image access (ping: 0.10.0 ms, read: 59.369.8 MB/s, size: 561.1 K
B)
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, 123</pre>
922.62it/s]
Plotting labels to vehicle-license-plate-detection\near-complete\imgsz640\la
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 640 train, 640 val
Using 8 dataloader workers
Logging results to vehicle-license-plate-detection\near-complete\imgsz640
Starting training for 300 epochs...
```

	1/300	2.23G		1.634		156	64
0:	100%	80/8 Class	80 [00:08<00 Images			R	mAP5
0	mAP50-95):	100% all			00, 5.95it 0.811		0.63
6	0.408	acc	102	713	0.811	0.551	0.03
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	2/300 100%	80/8	1.069 80 [00:05<00	9:00, 13.58	Bit/s]		64
0	mAP50-95):		Images 6/6				mAP5
5	0.443	all	182	715	0.711	0.669	0.70
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	3/300 100%		1.099 80 [00:05<00		1.224 Sit/s]	130	64
0	mAP50-95):		Images 6/6			R 7/s1	mAP5
5	0.418	all	182	715	0.679		0.70
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	4/300	2.81G		1.02		133	64
0:	100%	Class	80 [00:05<00 Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00:	00, 8.80ii 0.765		0.71
6	0.433	acc	102	, 13	01703	01075	0171
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	5/300 100%	2.81G	1.056 80 [00:05<00	0.9436 0:00. 13.96		151	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	all	182	715	00, 7.93i ¹ 0.786	0.691	0.73
2	0.464 Epoch	CDII mom	hov loss	cls loss	dfl loss	Instances	Ci-
е	Еросп	GPU_mem	DOX_1055	Cts_toss	urt_toss	Tilstances	Siz
0:	6/300 100%		80 [00:05<00		Sit/s]	110	64
0	mAP50-95):		Images 6/6		Box(P :00, 9.04i	R t/sl	mAP5
8	0.509	all	182	715	0.867	0.719	0.78
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

o ·	7/300 100%	2.81G	1.021 80 [00:05<0	0.8484 0.00 13 45		127	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	715	00, 8.11ii 0.852	0.723	0.78
5	0.501	CDII			161 1	Ŧ.,	6.
е	Epoch	GPU_mem	_	cls_loss	dfl_loss	Instances	Siz
0 :	8/300 100%		80 [00:05<00		Bit/s]	103	64
0	mAP50-95):	Class	Images 6/6		Box(P 00, 9.23i	R t/s]	mAP5
5	0.518	all	182	715	0.86	0.739	0.81
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	9/300		0.9939 80 [00:05<0			104	64
0	mAP50-95):	Class	Images 6/6	Instances	Box(P	R t/s1	mAP5
6	0.523	all	182	715	0.827	0.705	0.78
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0.	10/300	2.83G		0.7918		139	64
0 :		Class	80 [00:05<00 Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	182	[00:00<00: 715	00, 9.39it 0.885	0.764	0.82
3	0.535						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 :	11/300 100%	2.83G 80/	0.9794 80 [00:05<0	0.7734 9:00, 14.26		108	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	715	00, 9.34ii 0.862	0.737	0.80
4	0.547	CDU			163. 3	<u>.</u> .	
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 :	12/300 100%	2.83G 80/	0.9714 80 [00:05<00			153	64
0	mAP50-95):	Class	Images		Box(P 00, 9.60i	R t/sl	mAP5
3	0.519	all	182	715	0.862	0.736	0.80
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0	13/300 : 100%	2.83G	0.9475 80 [00:05<0	0.7352 0.00 14 13		146	64
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):				:00, 9.51it		0.01
3	0.547	all	182	715	0.888	0.742	0.81
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	14/300 : 100%		0.9466 80 [00:05<0			156	64
U	: 100%		Images			R	mAP5
0	mAD50 05).		6/6				IIIAPS
U	IIIAF30-93).	all	182	715	0.9	0.752	0.82
8	0.557	acc					0.02
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	15/300 : 100%		0.9533 80 [00:05<0			102	64
U	. 100%		Images			R	mAP5
0	mAP50-95):				:00, 8.70i1		IIIAI J
U	IIIAI 30-33).	all	182	715	0.888	0.766	0.82
5	0.554	acc	102	713	0.000	0.700	0.02
		CDII	h 1	-1- 1	441 1	T.,	C ÷ -
е	Epoch	GPU_mem	DOX_LOSS	CIS_LOSS	dfl_loss	Instances	Siz
0	16/300 : 100%	2.83G	0.9305 80 [00:05<0	0.7089		113	64
U	. 100%	Class		Instances		R	mAP5
0	mAP50-95):				:00, 9.67i1		1117 (1 3
8		all	182	715	0.894	0.766	0.83
		CDII	L 1	-1 - 1	161 1	T	C:-
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	17/300 : 100%	2.83G	0.9323 80 [00:05<0	0.7084 0:00. 14.3		139	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):			[00:00<00			
	•	all	182	715	0.877	0.763	0.83
5	0.568						
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	•	0. 0	50%_1000	0.03000	u. c_coss	1113 tull 003	312
	18/300	2.83G	0.926	0.6899	1.109	136	64
0	: 100%	80/		0:00, 13.83			
		Class	Images		Box(P	R	mAP5
0	mAP50-95):				:00, 9.99i1		
		all	182	715	0.893	0.78	0.83
5	0.586						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							

ο.	19/300 100%	2.83G	0.9 0.100:05<0	0.6711 0:00, 14.11		123	64
0	mAP50-95):	Class	Images	Instances		R /c1	mAP5
U	IIIAP30-93):	all	182	715	0.874	0.791	0.83
5	0.581						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
۵.	20/300 100%	2.83G		0.6699 0:00, 13.96		149	64
0.	100%	Class		Instances		R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00: 715	00, 9.69it 0.913	/s] 0.743	0.83
3	0.568	acc	102	713	0.915	0.745	0.05
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
٥.	21/300	2.83G	0.9018	0.6767		106	64
υ:	100%	Class		9:00, 13.95 Instances		R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00: 715	00, 9.61it 0.901	/s] 0.766	0.82
1	0.563	acc	102	713	0.901	0.700	0.02
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	22/300 100%	2.85G 80/8	0.8956 0 [00:05<0	0.6508 0:00, 14.10	1.097 it/s]	129	64
0	mAP50-95):	Class			Box(P 00, 9.40it	R /c1	mAP5
		all	182	715	0.908	0.766	0.8
4	0.583	CDIL	h 1	-1 - 1	161 1	Taskanasa	C:-
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	23/300	2.85G		0.6535	1.1	105	64
⊍:	100%	80/8 Class		9:00, 14.21 Instances		R	mAP5
0	mAP50-95):	100% all	6/6 182		00, 8.94it	/s] 0.776	0.0
5	0.596	all	102	715	0.918	0.770	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	24/300 100%	2.86G 80/8	0.8891 0 [00:05<0	0.6489 9:00, 13.92	1.089 it/sl	112	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	all	182	715	00, 9.86it 0.909	0.778	0.84
7	0.584						
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е		_	_		u. c_coss	instances	

0 mAP50-95): 100%	0	100%	80/8	30 [00:05<00		lit/s]		64
Class Images Instances Box (P R 182 1715 0.88 0.785 182 715 0.88 0.785 182 715 0.88 0.785 182 715 0.88 0.785 182 715 0.88 0.785 182 715 0.88 0.785 182 182 715 0.888 0.785 182	0		·		0.00, 15.51			
The color of the		IIIAF 30 - 93) .	100%					mAP5
Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 26/300								0.83
e	5							
0: 100% 80/80 [00:05<00:00, 13.97it/s] Class Images Instances Box(P R 0 mAP50-95): 100% 80/60 [00:00<00:00, 10.20it/s] all 182 715 0.898 0.8	е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Class Images Instances Box(P R 0 mAP50-95): 100%	•						125	64
0 mAP50-95): 100% 16/6 [00:00<00:00, 10.20it/s] all 182 715 0.898 0.8 5 0.595 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 27/300 2.86G 0.8714 0.6326 1.09 101 0: 100% 180/80 [00:05<00:00, 14.04it/s] Class Images Instances Box(P R O mAP50-95): 100% 182 715 0.897 0.804 8 0.597 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 28/300 2.86G 0.8722 0.6272 1.077 115 0: 100% 80/80 [00:05<00:00, 14.07it/s] Class Images Instances Box(P R O mAP50-95): 100% 182 715 0.865 0.798 3 0.6 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 29/300 2.86G 0.8535 0.6073 1.068 118 0: 100% 80/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R O mAP50-95): 100% 182 715 0.805 0.798 0 mAP50-95): 100% 180/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mAP50-95): 100% 180/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R O mA	⊍:	100%					R	mAP5
Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 27/300	0	mAP50-95):	100%	6/6	[00:00<00:	00, 10.20it	:/s]	
Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 27/300	5	0.595	all	182	715	0.898	0.8	0.8
e			GPU mem	box loss	cls loss	dfl loss	Instances	Siz
0: 100% Class Images Instances Box(P R 0 mAP50-95): 100% Box	е							
Class Images Instances Box(P R 0 mAP50-95): 100%	0.						101	64
Boch GPU_mem box_loss cls_loss dfl_loss Instances e 28/300 2.866 0.8722 0.6272 1.077 115 0:100%	0.	100%		_	•		R	mAP5
Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 28/300	0	mAP50-95):			_		_	
e	8	0.597	all	182	715	0.897	0.804	0.85
0: 100% 80/80 [00:05<00:00, 14.07it/s] Class Images Instances Box(P R 0 mAP50-95): 100% 80/80 182 715 0.865 0.798 3 0.6 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 29/300 2.86G 0.8535 0.6073 1.068 118 0: 100% 80/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R 0 mAP50-95): 100% 80/80 60/60 60/60 60/60 60/60 60/787 1 0.596 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 30/300 2.86G 0.8582 0.6117 1.078 145 6/6 100% 80/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R 6/6	е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Class Images Instances Box(P R 0 mAP50-95): 100%	0:						115	64
all 182 715 0.865 0.798 Epoch GPU_mem box_loss cls_loss dfl_loss Instances ls loos loos			Class	Images	Instances	Box(P		mAP5
e	3							0.84
29/300 2.86G 0.8535 0.6073 1.068 118 0: 100%		Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0: 100% 80/80 [00:05<00:00, 14.24it/s] Class Images Instances Box(P R	е	20 /200	2 000	0 0535	0 6072	1 000	110	C 4
Class Images Instances Box(P R 0 mAP50-95): 100% 6/6 [00:00<00:00, 10.12it/s] all 182 715 0.906 0.787 1 0.596 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e 30/300 2.86G 0.8582 0.6117 1.078 145 0: 100% 80/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R 0 mAP50-95): 100% 6/6 [00:00<00:00, 10.21it/s] all 182 715 0.907 0.777 4 0.596 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e	0:						118	64
The image of the			Class	Images	Instances	Box(P		mAP5
<pre>1 0.596</pre>	0	mAP50-95):						0.85
e 30/300 2.86G 0.8582 0.6117 1.078 145 0: 100%	1	0.596	acc	102	713	0.300	0.707	0.05
30/300 2.86G 0.8582 0.6117 1.078 145 0: 100%	Δ.	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0: 100% 80/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R mAP50-95): 100% 6/6 [00:00<00:00, 10.21it/s] all 182 715 0.907 0.777 4 0.596 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e		30/300	2.86G	0.8582	0.6117	1.078	145	64
0 mAP50-95): 100%	0:		80/8	30 [00:05<00	9:00, 13.93	Bit/s]	1.5	0.
all 182 715 0.907 0.777 4 0.596 Epoch GPU_mem box_loss cls_loss dfl_loss Instances e	0	mAD50 05\.						mAP5
Epoch GPU_mem box_loss cls_loss dfl_loss Instances e	U	IIIAF 30 - 93).						0.85
e	4							
31/300 2.86G 0.8649 0.6202 1.078 120	e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
							120	64
0: 100% 80/80 [00:05<00:00, 13.93it/s] Class Images Instances Box(P R	0:	100%	80/8 Class			Bit/s] Box(P	R	mAP5
	0	mAP50-95):	100%			00, 9.66it	:/s]	

6	0.594	all	182	715	0.855	0.78	0.84
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	32/300 100%		30 [00:05<00	9:00, 14.13		100	64
0	mAP50-95):		Images 6/6 182	_	Box(P 00, 10.18it 0.917	R [/s] 0.768	mAP5
2	0.603			715			0.85
е	Epoch	GPU_mem	_	_	dfl_loss		Siz
0:	33/300 100%	80/8	0.8516 30 [00:05<00	9:00, 14.19	it/s]	89	64
0	mAP50-95):		Images 6/6 182		00, 9.48it 0.905	R [/s] 0.781	mAP5 0.85
5	0.616						
е	Epoch	_	_	_	dfl_loss		Siz
0:	34/300 100%	80/8	0.8463 30 [00:05<00	9:00, 13.89		139 R	64 mare
0	mAP50-95):		Images 6/6 182	[00:00<00:			mAP5 0.84
2	0.601						
е	Epoch	GPU_mem		cls_loss			Siz
0:	35/300 100%		0.8343 30 [00:05<00	9:00, 13.52	it/s]	127 D	64 mAD5
0	mAP50-95):	100%	Images 6/6 182	[00:00<00:	Box(P 00, 10.03it		mAP5 0.86
9	0.614 Epoch	GPU mem			dfl loss		Siz
е	·	_	_	_	_		
0:	36/300 100%	80/8	0.8439 30 [00:05<00 Images			107 R	64 mAP5
0	mAP50-95):		6/6 182		•		0.84
8	0.596 Epoch	GPU mem			dfl loss		Siz
е	·	_	_	_	_		
0:	37/300 100%	80/8	0.8248 30 [00:05<00	9:00, 14.18	it/s]	139	64 mare
0	mAP50-95):		Images 6/6 182			R [/s] 0.765	mAP5 0.85
4	0.61						
е	Epoch	GPU_mem	box_loss	CLS_LOSS	ari_loss	instances	Siz

۵.	38/300 100%	2.88G	0.8151 0 [00:05<0	0.5762		96	64
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	all	182	715	00, 9.55it 0.933	0.789	0.86
5	0.619						
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	39/300	2.9G		0.5715		119	64
0:	100%		0 [00:05<0	•		D	m A D E
0	mAP50-95):	Class		Instances [00:00<00:	Box(P 00, 9.44it	R :/s]	mAP5
_		all	182	715	0.899	0.787	0.85
6	0.614	CDII	h 1	-1 - 1	161 1	T	C:-
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	40/300	2.9G			1.056	123	64
0:	100%		0 [00:05<0 Images		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 9.18it		
3	0.618	all	182	715	0.902	0.804	0.86
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	41/300 100%	2.91G	0.8207 0 [00:05<0		1.047	131	64
0			Images	Instances	Box(P	R:/s1	mAP5
8	0.614	all	182	715	0.901		0.85
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.	42/300 100%	2.91G	0.8147 0 [00:05<0	0.5659		129	64
0:	100%		Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 9.34it		
6	0.62	all	182	715	0.928	0.784	0.8
U	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	_p = 0	<u> </u>	30/	010_1000	u		
	43/300	2.91G		0.5698		123	64
0:	100%		0 [00:05<0 Images			R	mAP5
0	mAP50-95):	100%			00, 10.35it		IIIAFJ
5	0.616	all	182	715	0.923	0.788	0.85
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	44/300	2.91G	0.8128	0.5629	1.055	128	64
0:	100%	80/8	0 [00:05<0	0:00, 14.16	Sit/s]		
0	mAP50-95):	Class		Instances [00:00<00:	Box(P 00, 9.43it	R :/sl	mAP5
-		1000	0,0	[00100 400]	JU, JI-JI	, 0]	

6	0.616	all	182	715	0.903	0.793	0.85
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	45/300 100%		0.8013 80 [00:05<00	0.5701 9:00, 13.74		140	64
0	mAP50-95):	Class		<pre>Instances [00:00<00:</pre>	Box(P 00, 9.75it	R :/s]	mAP5
3	0.621	all	182	715	0.918	0.792	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	46/300 100%	2.91G	0.7994 80 [00:05<00			117	64
0	mAP50-95):	Class	Images		Box(P		mAP5
1	0.616	all	182	715	0.891	0.807	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	47/300 100%		0.7923 80 [00:05<00			124	64
0.	mAP50-95):	Class	Images	Instances	Box(P 00, 9.65it		mAP5
8	0.62	all	182	715	0.917	0.799	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	48/300 100%		0.7953 80 [00:05<00			147	64
0.	mAP50-95):	Class	Images 6/6	Instances	Box(P	R -/s1	mAP5
6	0.615	all					0.8
		0	102	715	0.913	0.79	0.0
۵	Epoch	GPU_mem			dfl_loss		Siz
е	Epoch 49/300	GPU_mem 2.91G	box_loss	cls_loss 0.5466	dfl_loss		
0:	Epoch 49/300 100%	GPU_mem 2.91G 80/Class	box_loss 0.794 80 [00:05<00 Images	cls_loss 0.5466 9:00, 13.83 Instances	dfl_loss 1.035 Bit/s] Box(P	Instances 91 R	Siz
0: 0	Epoch 49/300 100% mAP50-95):	GPU_mem 2.91G 80/Class	box_loss 0.794 80 [00:05<00 Images	cls_loss 0.5466 9:00, 13.83 Instances	dfl_loss 1.035 Bit/s]	Instances 91 R	Siz 64
0: 0 8	Epoch 49/300 100%	GPU_mem 2.91G 80/6 Class 100% all	box_loss 0.794 80 [00:05<00 Images 6/6 182	0.5466 9:00, 13.83 Instances [00:00<00: 715	dfl_loss 1.035 Bit/s] Box(P 00, 9.89it	Instances 91 R 7/s] 0.783	Siz 64 mAP5
0: 0 8	Epoch 49/300 100% mAP50-95): 0.624 Epoch 50/300	GPU_mem 2.91G 80/6 Class 100% all GPU_mem 2.91G	box_loss 0.794 80 [00:05<06	0.5466 0.5466 0:00, 13.83 Instances [00:00<00: 715 cls_loss	dfl_loss 1.035 Bit/s] Box(P 00, 9.89it 0.924 dfl_loss 1.032	Instances 91 R 7/s] 0.783	Siz 64 mAP5 0.86
0: 0 8 e	Epoch 49/300 100% mAP50-95): 0.624 Epoch 50/300 100%	GPU_mem 2.91G	box_loss 0.794 80 [00:05<06	cls_loss 0.5466 0:00, 13.83 Instances [00:00<00: 715 cls_loss 0.5391 0:00, 13.78 Instances	dfl_loss 1.035 3it/s] Box(P 00, 9.89it 0.924 dfl_loss 1.032 Bit/s] Box(P	Instances 91 R 7/s] 0.783 Instances 112 R	Siz 64 mAP5 0.86 Siz
0: 0 8 e 0:	Epoch 49/300 100% mAP50-95): 0.624 Epoch 50/300 100% mAP50-95):	GPU_mem 2.91G	box_loss 0.794 80 [00:05<06	cls_loss 0.5466 0:00, 13.83 Instances [00:00<00: 715 cls_loss 0.5391 0:00, 13.78 Instances	dfl_loss 1.035 Bit/s] Box(P 00, 9.89it 0.924 dfl_loss 1.032 Bit/s]	Instances 91 R 7/s] 0.783 Instances 112 R	Siz 64 mAP5 0.86 Siz 64
0: 0 8 e	Epoch 49/300 100% mAP50-95): 0.624 Epoch 50/300 100%	GPU_mem 2.91G	box_loss 0.794 80 [00:05<06	cls_loss 0.5466 0:00, 13.83 Instances [00:00<00: 715 cls_loss 0.5391 0:00, 13.78 Instances [00:00<00: 715	dfl_loss 1.035 Bit/s] Box(P 00, 9.89it 0.924 dfl_loss 1.032 Bit/s] Box(P 00, 9.47it	Instances 91 R 7/s] 0.783 Instances 112 R 7/s] 0.798	Siz 64 mAP5 0.86 Siz 64 mAP5

٥.	51/300 100%	2.91G	0.7779 80 [00:05<0	0.545		166	64
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	all	182	715	00, 9.75it 0.914	0.79	0.8
6	0.624						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
_	52/300	2.91G	0.7871	0.5422	1.031	138	64
0:	100%		80 [00:06<00			150	04
0	ADEQ_OE\	Class		Instances		R . / - 1	mAP5
0	mAP50-95):	all	182	715	00, 9.94it 0.912	0.79	0.85
7	0.616						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	F2 (200	2.016	0.7004	0 5417	1 000	101	6.4
0:	53/300 100%		0.7904 80 [00:05<00			121	64
٥.		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):		6/6				0.00
4	0.631	all	182	715	0.923	0.787	0.86
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0.	54/300 100%	2.91G	0.7914			111	64
0:	100%	·	80 [00:05<00 Images		Box(P	R	mAP5
0	mAP50-95):				00, 8.80it		
1	0.623	all	182	715	0.884	0.806	0.86
_	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	'	_	_	_	_		
	55/300	2.91G	0.7871	0.5378		119	64
0:	100%		80 [00:05<00 Images			R	mAP5
0	mAP50-95):				:00, 9.41it		IIIAFJ
_		all	182	715	0.902	0.803	0.87
2	0.628	CDU			167 7	<u>.</u>	6.
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	56/300	2.91G	0.7777	0.5268	1.025	104	64
0:	100%	80/8	80 [00:05<00	9:00, 13.84			
0	mAP50-95):		Images		Box(P	R . /c1	mAP5
		100%	0/0		:00, 9.39it		0.87
U	IIIAI 30 33).	all	182	715	0.925	0.794	0.07
2	0.64	all	182	715	0.925	0.794	0.07
2		all GPU_mem		715 cls_loss			Siz
	0.64 Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
2	0.64	GPU_mem 2.91G	box_loss	cls_loss 0.5249	dfl_loss		
2 e	0.64 Epoch 57/300	GPU_mem 2.91G 80/8	box_loss 0.759 80 [00:05<00 Images	cls_loss 0.5249 0:00, 14.49 Instances	dfl_loss	Instances 109 R	Siz

2	0.621	all	182	715	0.899	0.8	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:	58/300 100%	2.91G 80/8	0.7792 30 [00:05<00		it/s]	141	64
0	mAP50-95):			[00:00<00:	Box(P 00, 9.53it	:/s]	mAP5
4	0.615	all	182	715	0.927	0.789	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	59/300 100%		30 [00:05<00		it/s]		64
0	mAP50-95):			[00:00<00:	Box(P 00, 8.90it	:/s]	mAP5
9	0.629	all	182	715	0.912	0.801	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	60/300 100%		0.7544 30 [00:05<00	0:00, 13.84	it/s]	141	64
0	mAP50-95):	100%			Box(P 00, 9.71it		mAP5
7	0.634	all	182	715	0.919	0.803	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	61/300 100%		0.7562 30 [00:05<00	0.5121 0:00, 13.91		101	64
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 9.32it	:/s]	mAP5
8	0.624		182			0.791	0.85
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	62/300 100%		0.7567 30 [00:05<00			137	64
0	mAP50-95):			[00:00<00:	Box(P 00, 8.66it		mAP5
3	0.644	all	182	715	0.931	0.802	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	63/300 100%		0.7537 30 [00:05<00	9:00, 14.38		112	64
0	mAP50-95):				Box(P 00, 9.72it		mAP5
3	0.631	all	182	715	0.92	0.802	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0:	64/300 100%	2.91G	0.7402 80 [00:05<00	0.5003 0:00. 14.03		119	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 9.17it	R :/s1	mAP5
7	0.607	all	182	715	0.922	0.792	0.86
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·	_	_	_	_	128	64
0:	65/300 100%	80/8	0.7613 80 [00:05<00	0:00, 13.95	Sit/s]		
0	mAP50-95):	100%		_	:00, 9.12it	_	mAP5
7	0.635	all	182	715	0.903	0.808	0.86
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	66/300 100%		0.7552 80 [00:05<00	0.503 0:00. 14.0		142	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 9.55it	R -/s1	mAP5
3	0.627	all	182	715	0.919	0.811	0.87
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	67/300	2.91G	0.7498	0.5061	1.006	104	64
0:	100%		80 [00:05<00 Images	0:00, 14.09 Instances		R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00; 715	. <mark>00, 9.58it</mark> 0.9	0.798	0.86
4	0.62						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0.	68/300 100%	2.91G	0.7358 80 [00:05<00	0.5043		113	64
0	mAP50-95):	Class	Images	Instances		R -/s1	mAP5
5	0.641	all	182	715	0.932	0.804	0.87
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	69/300	2.91G	0.741	0.5069	1.01	83	64
0:	100%	80/8 Class	00:05<00 Images	9:00, 14.12 Instances	2it/s] Box(P	R	mAP5
0	mAP50-95):				:00, 9.31it 0.942		0.87
1	0.634	-					
	Epoch	GPU mem	hay lass	010 100-	dfl loss	Instances	Siz

۵.	70/300 100%	2.91G		0.504		82	64
		Class	30 [00:05<00 Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00:	:00, 9.97i1 0.919	0.798	0.8
7	0.644						0.0
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	71/300 100%	80/8	0.7319 80 [00:05<00	0:00, 13.77	7it/s]	111	64
0	mAP50-95):				Box(P :00, 9.79it	R :/s]	mAP5
7	0.635	all	182	715	0.908	0.801	0.86
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	72/300 100%		0.7391 80 [00:05<00		1.01 4it/s]	159	64
0	mAP50-95):		Images 6/6		Box(P :00, 9.86i1	R :/s]	mAP5
2	0.641	all	182	715	0.937	0.79	0.87
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	73/300 100%			0.4975 0:00, 12.87		132	64
0		Class	Images	Instances	Box(P :00, 9.38it	R -/s1	mAP5
6	0.634	all	182	715	0.928	0.788	0.86
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	74/300 100%	2.91G	0.7243 80 [00:05<00	0.4855	0.998	101	64
0.	mAP50-95):	Class	Images	Instances [00:00<00:	Box(P	R:/s1	mAP5
8	0.643	all	182	715	0.911	0.801	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	75/300 100%	2.91G 80/8	0.7347 80 [00:05<00	0.4912 0:00, 14.10	1.009 Dit/s]	109	64
0	mAP50-95):	Class	Images	Instances [00:00<00:	Box(P :00, 9.03it	R :/s1	mAP5
7	0.635	all	182	715	0.916	0.8	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0 -	76/300	2.916		0.4843		157	64
υ:	100%	Class	Images	9:00, 14.29 Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	182	[00:00<00: 715	00, 8.71it 0.931	0.796	0.86
8	0.634					01.700	0.00
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	77/300 100%	2.91G 80/80		0.4869 9:00, 13.09		112	64
0	mΔP50-Q5).	Class		<pre>Instances [00:00<00:</pre>	Box(P 00, 8.28it	R ·/s1	mAP5
9	0.633	all	182	715	0.9	0.813	0.86
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	78/300	2.91G	0.729	0.4882		116	64
	100%	Class	Images	0:00, 11.41 Instances	Box(P	R	mAP5
7	0.64	100% all	182	715	0.941	0.802	0.87
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	79/300 100%	2.91G		0.4843 0:00, 13.30		99	64
0.			Images	Instances	Box(P	R:/s1	mAP5
9	0.644	all	182	715	0.935	0.794	0.86
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	80/300 100%	2.91G 80/80	0.7258 [00:06<0	0.4852 9:00, 13.19		150	64
0	mAP50-95):	Class	Images	Instances [00:00<00:	Box(P	R/s1	mAP5
5	0.644	all	182	715	0.933	0.795	0.87
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	81/300 100%	2.91G 80/80	0.7212 [00:05<00	0.4764 9:00, 13.35	0.99 it/s]	134	64
0	mAP50-95):	Class	Images	Instances [00:00<00:	Box(P 00, 9.09it	R ·/s1	mAP5
8	0.641	all	182	715	0.922	0.789	0.86
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz

۵.	82/300 100%	2.91G	0.7258 80 [00:05<0		0.9972	134	64
		Class	Images	Instances	Box(P		mAP5
0	MAP50-95):	all	6/6 182	715	0.92	0.791	0.8
6	0.625						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	83/300 100%	80/	0.7085 80 [00:05<00	0:00, 13.78	Bit/s]		64
0	mAP50-95):		Images 6/6				mAP5
2	0.644	all	182	715		0.799	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	84/300 100%		0.718 80 [00:05<0			147	64
0		Class	Images 6/6	Instances	Box(P	R [/s]	mAP5
3	0.631	all	182	715	0.925	0.793	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	85/300 100%	2.91G	0.7114 80 [00:05<0			137	64
		Class	Images	Instances	Box(P	R	mAP5
0	MAP50-95):	all	182	715			0.87
7	0.644						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
ο.	86/300 100%	2.91G	0.7052 80 [00:05<00	0.4705 0.00 1 <i>4 48</i>		123	64
	mAP50-95):	Class	Images	Instances	Box(P	R	mAP5
0	IIIAP30-93):	all	182	715	:00, 9.38i1 0.929	0.81	0.87
7	0.648						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
۵.	87/300 100%	2.91G 80/	80 [00:05<00		9it/s]	146	64
0:				T .	D (D	R	mAP5
	mAP50-95):	Class	Images				liiAi 3
0	mAP50-95):				:00, 10.05it		0.87
	mAP50-95): 0.651 Epoch	100%	6/6	[00:00<00	:00, 10.05it 0.915	0.818	

88/300 2.916 0.7043 0.4652 0.9893 136 64								
Class	Θ·						136	64
A			Class	Images	Instances	Box(P		mAP5
Epoch GPU_mem box_loss cls_loss dfl_loss Instances								0.87
89/300	4							
0: 100%	е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Class Images Instances Box (P R mAP5		·					155	64
0 mAP50-95): 100%	0:	100%					_	4.05
A	O	mAD50 05).						mAP5
4 0.655 Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e 90/300 2.91G 0.7007 0.4654 0.9872 123 64 0: 100%	U	IIIAP30-93):						0.87
e 99/300 2.916 0.7007 0.4654 0.9872 123 64 0: 100%	4	0.655	acc	102	713	0.311	01001	0107
e 99/300 2.916 0.7007 0.4654 0.9872 123 64 0: 100%		Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
0: 100% 80/80 60:05<00:00, 14.26it/s R mAP5	е	_poo	o. oo	20N_1000	010_1000	u. 1 <u>_</u> 1000		
0: 100%		90/300	2.91G	0.7007	0.4654	0.9872	123	64
0 mAP50-95): 100% 182 16/6 [00:00<00:00, 9.39it/s]	0:	·						
Salt 182 715 0.913 0.805 0.87				•				mAP5
Epoch	0	mAP50-95):			_			
Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz 91/300	_	0.641	all	182	715	0.913	0.805	0.87
e	5							
0: 100%	е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Class Images Instances Box(P R mAP5 Government Governm		91/300	2.91G	0.7143	0.48	0.9937	134	64
0 mAP50-95): 100% 6/6 [00:00<00:00, 8.64it/s]	0:	100%	· · · · · · · · · · · · · · · · · · ·					
All 182 715 0.926 0.801 0.87	0	4050 05)						mAP5
6 0.645 Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e 92/300 2.91G 0.6972 0.4622 0.9867 112 64 0: 100%	0	MAP50-95):						0.07
Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e	6	0.645	att	102	/13	0.920	0.001	0.07
e			GDII mem	hov loss	cle loss	dfl loss	Instances	Siz
92/300	е	Еросп	or o_inein	00%_0033	Ct3_t033	u1 t_t033	Tilstalices	312
0: 100% 80/80 00:05<00:00, 13.53it/s Class Images Instances Box(P R MAP5 0		92/300	2 91G	A 6972	A 4622	A 9867	112	64
Class Images Instances Box(P R mAP5 0 mAP50-95): 100% 100% 6/6 [00:00<00:00, 9.16it/s]	0:	·					112	O T
5 0.652 Epoch GPU_mem box_loss cls_loss dfl_loss Instances 93/300 2.91G 0.6981 0.462 0.9875 126 64 0: 100%							R	mAP5
5 0.652 Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e 93/300 2.91G 0.6981 0.462 0.9875 126 64 0: 100%	0	mAP50-95):		6/6	[00:00<00:	:00, 9.16it	:/s]	
Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e	_		all	182	715	0.924	0.803	0.87
e 93/300 2.91G 0.6981 0.462 0.9875 126 64 0: 100% 80/80 [00:05<00:00, 13.69it/s]	5							
93/300 2.91G 0.6981 0.462 0.9875 126 64 0: 100% 80/80 [00:05<00:00, 13.69it/s] Class Images Instances Box(P R mAP5 0 mAP50-95): 100% 6/6 [00:00<00:00, 10.03it/s] all 182 715 0.922 0.813 0.8 8 0.656 Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e 94/300 2.91G 0.7032 0.4655 0.9845 102 64 0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5		Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0: 100% 80/80 [00:05<00:00, 13.69it/s] Class Images Instances Box(P R mAP5 of mAP50-95): 100% 6/6 [00:00<00:00, 10.03it/s] all 182 715 0.922 0.813 0.8 0.656	е							
Class Images Instances Box(P R mAP5 0 mAP50-95): 100% 6/6 [00:00<00:00, 10.03it/s]		·					126	64
0 mAP50-95): 100% 6/6 [00:00<00:00, 10.03it/s]	0:	100%					D	A D.E.
8 0.656 Epoch GPU_mem box_loss cls_loss dfl_loss Instances 94/300 2.91G 0.7032 0.4655 0.9845 102 64 0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5	0	mΛP50-Q5).						IIIAPS
8 0.656 Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e 94/300 2.91G 0.7032 0.4655 0.9845 102 64 0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5	U	IIIAI 30-33).						0.8
Epoch GPU_mem box_loss cls_loss dfl_loss Instances Siz e 94/300 2.91G 0.7032 0.4655 0.9845 102 64 0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5	8	0.656	3	102	, 13	0.022	0.013	0.0
e 94/300 2.91G 0.7032 0.4655 0.9845 102 64 0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5			GPU mem	box loss	cls loss	dfl loss	Instances	Siz
0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5	_	-600	o				10.1005	311
0: 100% 80/80 [00:05<00:00, 13.83it/s] Class Images Instances Box(P R mAP5	е		2.016	0 7022	0 4655	0.0945	102	64
Class Images Instances Box(P R mAP5	е	94/300	2.916	0.7032	6.4055	0.9043	102	
0 mAP50-95): 100% 6/6 [00:00<00:00, 9.43it/s]							102	0.1
		100%	80/8 Class	80 [00:05<00 Images	0:00, 13.83 Instances	Bit/s] Box(P	R	

4	0.645	all	182	715	0.943	0.803	0.87
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	95/300 100%	2.91G 80/8		0.4581 0:00, 14.30		149	64
0		Class	Images	Instances		R /s]	mAP5
1	0.651	all	182	715	0.928	0.81	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	96/300 100%	2.91G 80/8		0.4568 0:00, 14.08		105	64
0			Images	Instances		R /s]	mAP5
6	0.635	all	182	715	0.93	0.788	0.8
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	97/300 100%	2.91G		0.4616 9:00, 12.84		151	64
0.		Class	Images	Instances		R /s1	mAP5
1	0.649	all	182	715	0.934	0.809	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	98/300 100%	2.91G 80/8	0.6891	0.4559	0.9828	113	64
	mAP50-95):	Class	Images	Instances	Box(P 00, 7.88it	R	mAP5
3	0.647	all	182	715	0.911	0.8	0.86
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	99/300	2.91G	0.695	0.4627		128	64
	100%	Class	Images	0:00, 12.43 Instances	Box(P	R	mAP5
0	mAP50-95): 0.654	all	182	715	00, 8.39it 0.925	0.802	0.87
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
e	100/300	2.91G		0.4564		173	64
	100%	Class	Images	0:00, 13.19 Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	715	00, 6.62it 0.934	0.795	0.8
8	0.647						

e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	101/300 100%	2.91G 80/8	0.6956 80 [00:05<00	0.4566 9:00, 13.46		154	64
0		Class 100%	Images 6/6	Instances [00:00<00:	Box(P:00, 7.61it	t/s]	mAP5
8	0.647	all	182	715	0.915	0.806	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	102/300 100%		0.701 80 [00:05<0			87	64
0		Class	Images 6/6	Instances	Box(P	R	mAP5
4	0.646	all	182	715	0.929	0.807	0.87
e		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0.	103/300		0.6747			147	64
	100%	Class	80 [00:05<00 Images	Instances	Box(P	R	mAP5
0		all	182	715		0.814	0.87
3	0.645 Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	104/300	2.91G	0 676	0.4468	0.9797	167	64
0:	100%	80/8	0.070 80 [00:05<00 Images	9:00, 14.48	Bit/s]		
0	mAP50-95):	100%	6/6	[00:00<00	:00, 9.36it	t/s]	mAP5
9	0.652	all	182	715	0.903	0.819	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
٥.	105/300 100%	2.91G	0.6782 80 [00:05<0	0.4428		111	64
		Class	Images	Instances		R	mAP5
0	mAP50-95):	all	182	715	0.933	0.82	0.88
4	0.653 Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	106/300	2.91G	0.6763	0.4396	0.9758	125	64
0:	100%		80 [00:05<00 Images		ôit/s]	123 R	
0	mAP50-95):	100%	6/6	[00:00<00	:00, 9.37it	t/s]	mAP5
8	0.649	all	182	715	0.933	0.798	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0:	107/300 100%		0.6742 80 [00:05<0			135	64
0		Class	Images 6/6	Instances	Box(P		mAP5
4	0.648	all	182	715	0.918	0.816	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	108/300 100%		0.6644 80 [00:05<0			163	64
	mAP50-95):	Class	Images	Instances	Box(P	R:/s1	mAP5
6	0.652	all	182	715	0.92	0.818	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	109/300 100%		0.6663 80 [00:05<0			124	64
0		Class	Images 6/6	Instances	Box(P		mAP5
6	0.646	all	182	715	0.932	0.8	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	110/300 100%		0.6671 80 [00:05<00			167	64
0	mAP50-95):	100%	Images 6/6	[00:00<00:	:00, 9.33it	:/s]	
1	0.656	all	182	715	0.908	0.812	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	111/300 100%	2.91G 80/8	0.6675 80 [00:05<00	0.4381 0:00, 14.36		127	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 8.97it	R :/s]	mAP5
4	0.649	all	182	715	0.95	0.781	0.87
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	112/300	2.91G	0.6716	0.4435		158	64
	100%	Class	80 [00:05<00 Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% 	182	715	00, 9.85it 0.929	0.8	0.88
1	0.65 Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							

0:	113/300 100%	2.91G	0.6644 30 [00:05<00		0.9738 7it/sl	106	64
0		Class	Images	Instances	Box(P :00, 9.01i1	R :/s1	mAP5
2	0.647	all	182	715	0.931	0.805	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	114/300 100%		0.6629 80 [00:05<00		0.973	102	64
0		Class	Images	Instances	Box(P :00, 8.23i1	R :/sl	mAP5
3	0.654	all	182	715	0.935	0.808	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	115/300 100%		0.6648 80 [00:05<00			153	64
0		Class	Images	Instances	Box(P :00, 7.81i	R :/s]	mAP5
8	0.654	all	182	715	0.93	0.82	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0.	116/300 100%	2.91G	0.6552 80 [00:05<00	0.4353		127	64
0.	100 0				Box(P	R	mAP5
0	mAP50-95):				:00, 8.52i1		
6	0.662	all	182	715	0.891	0.829	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	117/300	2.91G		0.4253		132	64
0:	100%		80 [00:05<00			_	4.0.5
0	mAP50-95):			Instances [00:00<00:			mAP5
7	0.648	all	182	715	0.888	0.825	0.87
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	118/300 100%	2.91G 80/8	0.6554 80 [00:05<00	0.4244 9:00, 13.95		113	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 7.79it	R :/s]	mAP5
7	0.647	all	182	715	0.912	0.824	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0.	119/300 100%	2.91G	0.6534 30 [00:05<00		0.9681	100	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 9.58it		mAP5
		all	182	715	0.922	0.818	0.88
6	0.655						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	120/300				0.9662	131	64
0:	100%		30 [00:05<00			_	
0	mAD50 05).				Box(P :00, 8.66it		mAP5
U	IIIAF 30 - 93).	all	182	715	0.923	0.791	0.87
1	0.644			5	0.020	0.702	0.07
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	121/300				0.9621	112	64
0:	100%		30 [00:05<00	•		_	
0	mAD50 05).				Box(P :00, 8.85it		mAP5
U	IIIAF 30 - 93).	all	182	715	0.925	0.819	0.88
5	0.661	acc	102	, 13	0.025	0.013	0.00
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·		_	_	_		
	122/300	2.91G	0.6495	0.4211	0.9621	116	64
0:	100%		30 [00:05<00				
^	ADEQ .0E.\		Images			R	mAP5
0	MAP50-95):	all	182	715	00, 9.27it 0.931		0.88
2	0.65	acc	102	713	0.551	0.003	0.00
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е							
	123/300	2.91G	0.6455	0.4193	0.9609	116	64
0:	100%		30 [00:05<00				
•	ADEO 05)		Images				mAP5
0	mAP50-95):	100% 	182	715	00, 9.87it 0.918	0.828	0.8
8	0.648	acc	102	713	0.910	0.020	0.0
	Epoch	CDII					Siz
	FDOCH	(JPII MAM	hox loss	cls loss	dfl loss	Instances	
е	Еросп	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	312
е	·	_					
	124/300 100%			0.4229	0.9612	Instances	64
0:	124/300 100%	2.91G 80/8 Class	0.6541 30 [00:05<00 Images	0.4229 0:00, 14.71 Instances	0.9612 Lit/s] Box(P	106 R	
	124/300 100%	2.91G 80/8 Class 100%	0.6541 30 [00:05<00 Images 6/6	0.4229 0:00, 14.71 Instances [00:00<00:	0.9612 Lit/s] Box(P :00, 10.27it	106 R :/s]	64 mAP5
0:	124/300 100%	2.91G 80/8 Class	0.6541 30 [00:05<00 Images	0.4229 0:00, 14.71 Instances	0.9612 Lit/s] Box(P	106 R	64
0: 0	124/300 100% mAP50-95):	2.91G 80/8 Class 100% all	0.6541 80 [00:05<00 Images 6/6 182	0.4229 9:00, 14.71 Instances [00:00<00: 715	0.9612 lit/s] Box(P :00, 10.27it 0.939	106 R /s] 0.82	64 mAP5 0.88
0: 0	124/300 100% mAP50-95):	2.91G 80/8 Class 100%	0.6541 80 [00:05<00 Images 6/6 182	0.4229 0:00, 14.71 Instances [00:00<00:	0.9612 lit/s] Box(P :00, 10.27it 0.939	106 R /s] 0.82	64 mAP5
0: 0 9	124/300 100% mAP50-95):	2.91G 80/8 Class 100% all	0.6541 30 [00:05<00 Images 6/6 182 box_loss	0.4229 9:00, 14.71 Instances [00:00<00: 715	0.9612 lit/s] Box(P :00, 10.27it 0.939 dfl_loss	106 R /s] 0.82	64 mAP5 0.88
0: 0 9	124/300 100% mAP50-95): 0.654 Epoch	2.91G 80/8 Class 100%	0.6541 80 [00:05<00 Images 6/6 182 box_loss 0.6528 80 [00:05<00	0.4229 0:00, 14.71 Instances [00:00<00: 715 cls_loss 0.4234 0:00, 14.38	0.9612 lit/s] Box(P :00, 10.27it 0.939 dfl_loss 0.9611 Bit/s]	106 R 7/s] 0.82 Instances	64 mAP5 0.88 Siz
0: 0 9	124/300 100% mAP50-95): 0.654 Epoch	2.91G 80/8 Class 100% all GPU_mem 2.91G 80/8 Class	0.6541 80 [00:05<00 Images 6/6 182 box_loss 0.6528 80 [00:05<00 Images	0.4229 0:00, 14.71 Instances [00:00<00: 715 cls_loss 0.4234 0:00, 14.38 Instances	0.9612 lit/s] Box(P :00, 10.27it 0.939 dfl_loss 0.9611 Bit/s]	106 R:/s] 0.82 Instances 180 R	64 mAP5 0.88 Siz

9	0.645	all	182	715	0.924	0.801	0.87
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	126/300 100%	80/8	0.6443 30 [00:05<00	9:00, 14.84	it/s]		64
0	mAP50-95):	Class 100% all	Images 6/6 182	Instances [00:00<00: 715	Box(P 00, 9.53it 0.928	R [/s] 0.804	mAP5 0.87
6	0.644						
е	Epoch	GPU_mem	_			Instances	Siz
0:	127/300 100%	80/8	0.663 30 [00:05<00	9:00, 14.27	it/s]	147	64 **ADE
0	mAP50-95):		Images 6/6 182			R [/s] 0.794	mAP5 0.87
8	0.647						Siz
е	Epoch	_	_		dfl_loss		
0:	128/300 100%	80/8	0.6398 30 [00:05<00 Images	9:00, 14.72		221 R	64 mAP5
0	mAP50-95):				00, 9.22it 0.928		0.87
9	0.655 Epoch					Instances	Siz
е	·	GPU_mem		cls_loss			
0:	129/300 100%		0.6522 30 [00:05<00 Images	9:00, 14.06	it/s]	149	64 mare
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 9.70it		mAP5 0.87
7	0.652 Epoch	GPU mem			dfl loss		Siz
е	·	_	_		_		
0:	130/300 100%	80/8	0.6431 30 [00:05<00		it/s]	99 R	64 mars
0	mAP50-95):		Images 6/6 182		Box(P 00, 9.61it 0.918		mAP5 0.88
3	0.657 Epoch	GPU mem			dfl loss		Siz
е	·	_	_		_		
0:	131/300 100%	80/8	0.6371 30 [00:05<00 Images	9:00, 14.78	it/s]	109 R	64 mAP5
0	mAP50-95):				00, 8.49it 0.901		0.88
2	0.646						
е	Epoch	GPU_mem	box_loss	CLS_LOSS	uit_toss	instances	Siz

۵.	132/300 100%	2.91G	0.644 80 [00:05<0		0.9591	114	64
		Class	Images	Instances	Box(P :00, 10.38it		mAP5
0	mAP50-95):	all	182	715	0.933	0.816	0.88
4	0.644						
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	133/300				0.951	131	64
Θ:	100%		80 [00:05<00 Tmages		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 9.03it	:/s]	
9	0.658	all	182	715	0.931	0.809	0.88
9	Epoch	GPU mem	hox loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0_1110111	box_co33	ct3_t033	u1 t_t033	Thistances	312
0:	134/300 100%		0.6245 80 [00:05<0		0.9502 9it/s]	104	64
					Box(P	R	mAP5
0	mAP50-95):	100% all		[00:00<00:	:00, 10.17it 0.912	0.823	0.88
6	0.66	acc	102	713	0.512	0.025	0.00
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
					0.9588	114	64
0:	100%				Bit/s] Box(P	R	mAP5
0	mAP50-95):				:00, 9.70it		IIIAI 3
5	0.658	all	182	715	0.924	0.823	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	136/300	2.91G		0.4148		152	64
0:	100%		00:05<0 Images			R	mAP5
0	mAP50-95):	100%			:00, 8.94it		IIIAFJ
3	0.656	all	182	715	0.92	0.81	0.88
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
۵.	137/300 100%	2.91G	0.6331 80 [00:05<0	0.4084 0.00 14 76		149	64
0.	100.9		Images			R	mAP5
0	mAP50-95):	100%			:00, 9.05it		0.00
2	0.656	all	182	715	0.911	0.816	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	138/300	2.91G		0.4116		109	64
0:	100%	80/8 Class	30 [00:05<0	0:00, 13.92 Instances		D	mAP5
0	mAP50-95):				:00, 8.88it	R :/s]	IIIAFO
•							

8	0.657	all	182	715	0.937	0.817	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	139/300 100%		80 [00:05<00		it/s]		64
0	mAP50-95):		6/6	[00:00<00:	00, 8.80it		mAP5
6	0.66	all	182	715	0.938	0.811	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	140/300 100%	2.91G 80/	0.6424 80 [00:05<00	0.4158 0:00, 13.77		96	64
0	mAP50-95):	Class	Images		Box(P		mAP5
8	0.663	all	182	715	0.944	0.803	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	141/300 100%		0.6275 80 [00:05<00			110	64
0.	mAP50-95):	Class	Images	Instances	Box(P 00, 9.40it		mAP5
6	0.659	all	182	715	0.933	0.818	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	1.42./200		0 6207	0 4000	0.9462	114	64
ο.	142/300		0.6297				
	100%	80/ Class	80 [00:05<00 Images	0:00, 14.25 Instances	bit/s] Box(P	R	mAP5
0	100% mAP50-95):	80/ Class	80 [00:05<00 Images 6/6	0:00, 14.25 Instances [00:00<00:	bit/s] Box(P	R	
0 7	100%	80/ Class 100%	80 [00:05<00 Images 6/6 182	0:00, 14.25 Instances [00:00<00: 715	Box(P Box(P 00, 9.06it 0.915	R :/s]	mAP5
0 7 e	mAP50-95): 0.66 Epoch 143/300	80/ Class 100% all GPU_mem	80 [00:05<00 Images 6/6 182 box_loss	0:00, 14.25 Instances [00:00<00: 715 cls_loss	Box(P 00, 9.06it 0.915 dfl_loss 0.9532	R (/s] 0.838 Instances	mAP5
0 7 e	mAP50-95): 0.66 Epoch 143/300 100%	Class 100% all GPU_mem 2.91G 80/ Class	80 [00:05<00 Images 6/6 182 box_loss 0.6318 80 [00:05<00 Images	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances	Box(P 00, 9.06it 0.915 dfl_loss 0.9532 Bit/s] Box(P	R :/s] 0.838 Instances 139	mAP5 0.88 Siz
0 7 e 0:	mAP50-95): 0.66 Epoch 143/300 100% mAP50-95):	Class 100% all GPU_mem 2.91G 80/ Class	80 [00:05<00 Images 6/6 182 box_loss 0.6318 80 [00:05<00 Images	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances	Box(P Box(P 00, 9.06it 0.915 dfl_loss 0.9532 Bit/s]	R :/s] 0.838 Instances 139	mAP5 0.88 Siz 64
0 7 e 0: 0	mAP50-95): 0.66 Epoch 143/300 100%	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all	80 [00:05<00 Images 6/6 182 box_loss 0.6318 80 [00:05<00 Images 6/6 182	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances [00:00<00: 715	Box(P 00, 9.06it 0.915 dfl_loss 0.9532 Git/s] Box(P 00, 9.01it	R 2/s] 0.838 Instances 139 R 2/s] 0.823	mAP5 0.88 Siz 64 mAP5
0 7 e 0: 0 7	mAP50-95): 0.66 Epoch 143/300 100% mAP50-95): 0.663 Epoch 144/300	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G	80 [00:05<00 Images	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances [00:00<00: 715 cls_loss	Box(P 00, 9.06it 0.915 dfl_loss 0.9532 3it/s] Box(P 00, 9.01it 0.912 dfl_loss 0.9451	R 2/s] 0.838 Instances 139 R 2/s] 0.823	mAP5 0.88 Siz 64 mAP5 0.88
0 7 e 0: 7 e	100% mAP50-95): 0.66 Epoch 143/300 100% mAP50-95): 0.663 Epoch 144/300 100%	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class	80 [00:05<00 Images 6/6 182 6/6	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances [00:00<00: 715 cls_loss 0.401 0:00, 13.69 Instances	Box(P 00, 9.06it 0.915 dfl_loss 0.9532 3it/s] Box(P 00, 9.01it 0.912 dfl_loss 0.9451 0it/s] Box(P	R 2/s] 0.838 Instances 139 R 2/s] 0.823 Instances 96 R	mAP5 0.88 Siz 64 mAP5 0.88 Siz
0 7 e 0: 0 7 e	100% mAP50-95): 0.66 Epoch 143/300 100% mAP50-95): 0.663 Epoch 144/300 100% mAP50-95):	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class	80 [00:05<00 Images 6/6 182 6/6	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances [00:00<00: 715 cls_loss 0.401 0:00, 13.69 Instances	Box(P 00, 9.06it 0.915 dfl_loss 0.9532 3it/s] Box(P 00, 9.01it 0.912 dfl_loss 0.9451 0it/s] Box(P	R 2/s] 0.838 Instances 139 R 2/s] 0.823 Instances 96 R 2/s]	mAP5 0.88 Siz 64 mAP5 0.88 Siz 64
0 7 e 0: 7 e	100% mAP50-95): 0.66 Epoch 143/300 100% mAP50-95): 0.663 Epoch 144/300 100%	80/ Class 100% all GPU_mem 2.91G	80 [00:05<06 Images 6/6 182 box_loss 0.6318 80 [00:05<06 Images 6/6 182 box_loss 0.6236 80 [00:05<06 Images 6/6 182	0:00, 14.25 Instances [00:00<00: 715 cls_loss 0.4085 0:00, 14.48 Instances [00:00<00: 715 cls_loss 0.401 0:00, 13.69 Instances [00:00<00: 715	Box(P 00, 9.06it 0.915 dfl_loss 0.9532 3it/s] Box(P 00, 9.01it 0.912 dfl_loss 0.9451 0it/s] Box(P 00, 9.34it	R 2/s] 0.838 Instances 139 R 2/s] 0.823 Instances 96 R 2/s] 0.825	mAP5 0.88 Siz 64 mAP5 0.88 Siz 64 mAP5

64	125			0.6204		145/300 100%	٥.
mAP5	R	Box(P	Instances	780 [00:05<0 Images	Class		
0.00				6/6		mAP50-95):	0
0.88	0.822	0.944	715	182	all	0.665	6
Siz	Instances	dfl_loss	cls_loss	box_loss	GPU_mem	Epoch	e
64	149		0.404 0:00, 13.96	0.6227 80 [00:05<0	2.91G 80/	146/300 100%	0:
mAP5	R :/s]	Box(P	Instances	Images 6/6	Class		
0.88	0.82	0.919	715		all	0.658	7
Siz	Instances	dfl_loss	cls_loss	box_loss	GPU_mem	Epoch	e
64	86			0.6293 80 [00:05<0	2.91G	147/300 100%	0:
mAP5	R :/s]		Instances	Images	Class	mAP50-95):	
0.88	0.817	0.933	715	182	all	0.662	6
Siz	Instances	dfl_loss	cls_loss	box_loss	GPU_mem	Epoch	e
64	93	0.9457 it/sl	0.3986 0:00. 14.07	0.6114 '80 [00:05<0	2.91G	148/300 100%	0:
mAP5	R :/s1	Box(P	Instances	Images 6/6	Class		
0.88	0.832	0.903	715	182	all	0.66	7
Siz	Instances	dfl_loss	cls_loss	box_loss	GPU_mem	Epoch	e
64	110		0.395 0:00, 14.35	0.6125 80 [00:05<0	2.91G 80/	149/300 100%	0:
mAP5	_	Box(P 00, 8.98it	Instances [00:00<00:			mAP50-95):	0
0.88	0.815	0.926	715	182	all	0.655	1
Siz	Instances	dfl_loss	cls_loss	box_loss	GPU_mem	Epoch	е
64	166	0.941 Sit/s]	0.4017 0:00, 13.86	0.6246 80 [00:05<0	2.91G 80/	150/300 100%	0:
mAP5	R :/s]	Box(P 00, 8.49it	Instances	Images	Class	mAP50-95):	0
0.88	0.81	0.939	715	182	all	0.656	6
Siz	Instances	dfl_loss	cls_loss	box_loss	GPU_mem	Epoch	е

0.	151/300 100%	2.91G	0.6177 30 [00:05<00	0.4003 0.4003		129	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 8.89i1	R	mAP5
U	IIIAI 30 33).	all	182	715	0.948	0.806	0.88
3	0.656	acc	102	713	0.940	0.000	0.00
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	152/300				0.9408	109	64
0:	100%		30 [00:05<00 Images		Sit/s] Box(P	R	mAP5
0	mAP50-95):				:00, 9.20i1		IIIAI J
4	0.658	all	182	715	0.925	0.81	0.88
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0:	153/300 100%		0.6145 30 [00:05<00		0.9467 5it/s]	162	64
0			Images		Box(P	R	mAP5
0	MAP50-95):	all	182	715	:00, 9.09i1 0.92	0.809	0.87
5	0.656	acc					0.67
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	154/300	2.91G	0.6264	0.3988	0.9461	132	64
0:	100%		30 [00:05<00				
			Images			R	mAP5
0	mAP50-95):				:00, 9.25it		
8	0.652	all	182	715	0.926	0.8	0.87
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	155/300	2.91G		0.3998		150	64
0:	100%	 -	30 [00:05<00				4.0.5
0	mAP50-95):	Class	Images	Instances	Box(P :00, 9.40i1	R - /c1	mAP5
U	IIIAP30-93):	all	182	715	0.913	0.819	0.8
8	0.66		v_	. =0	0.020	0.020	0.0
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
ω.	156/300 100%	2.91G	0.6029 30 [00:05<00	0.3895 14.31	0.9381 Dit/sl	99	64
0.	1000	Class		Instances	Box(P	R	mAP5
0	mAP50-95):				:00, 8.87i1		(1 3
	,	all	182	715	0.912	0.827	0.88
2	0.651						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							

٥.	157/300 100%	2.91G	0.6126 80 [00:05<0		0.9398	145	64
0.		Class	Images	Instances	Box(P :00, 9.19it	R	mAP5
U	mAP50-95):	all	182	715	0.954	0.794	0.88
2	0.666						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0	158/300		0.6135			153	64
0:	100%		80 [00:05<00 Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 9.61it	:/s]	2 22
3	0.663	all	182	715	0.918	0.811	0.88
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0.	159/300 100%		0.6083 80 [00:05<00			120	64
0.		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00:	00, 8.99it 0.913	./s] 0.819	0.88
4	0.663	att	102	713	0.913	0.019	0.00
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	100/200	2 010	0 5067	0 2000	0 0000	0.7	6.4
0:	160/300 100%		0.5967 80 [00:05<00			87	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00:	00, 8.88it 0.924		0.88
6	0.658					0.02.	0.00
0	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	161/300	2.91G	0.612	0.3913	0.9406	123	64
0:	100%	80/8	80 [00:05<00	9:00, 14.15	Sit/s]		
0	mAP50-95):		Images		Box(P :00, 9.02it		mAP5
U		all	182	715	0.917	0.826	0.8
9	0.662						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	162/300	2.91G	0.5987	0.3815	0.9374	111	64
0:	100%		80 [00:05<00			D	A D.E
0	mAP50-95):		Images 6/6		Box(P :00, 9.10it	R :/s]	mAP5
_		all	182	715	0.935	0.808	0.88
5	0.665 Epoch	GPU mem	hov loss	cls_loss	dfl loss	Instances	Siz
	Lpocii	GFU_IIIEIII	nov_ross	CL5_LUSS	u11_1055	TIIS CALICES	312
е							
	163/300	2.91G		0.3939		110	64
	163/300 100%	80/8	80 [00:05<00	9:00, 14.19	0it/s]		
	100%	80/8 Class	80 [00:05<00	0:00, 14.19 Instances	Dit/s] Box(P	R	64 mAP5

2	0.655	all	182	715	0.91	0.825	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	164/300 100%	2.91G 80/	80 [00:05<00		!it/s]	98	64
0	mAP50-95):		6/6	[00:00<00:	Box(P 00, 8.95it	:/s]	mAP5
6	0.661	all	182	715	0.912	0.83	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	165/300 100%	80/	0.5996 80 [00:05<00	9:00, 14.12	!it/s]		64
0	mAP50-95):			[00:00<00:	Box(P 00, 9.32it	:/s]	mAP5
9	0.661	all	182	715	0.928	0.835	0.88
е	Epoch	GPU_mem	_		dfl_loss		Siz
0:	166/300 100%	80/	0.598 80 [00:05<00	0:00, 14.49	it/s]		64
0	mAP50-95):	100%	Images 6/6				mAP5
8	0.652	all	182	715	0.928	0.815	0.8
е	Epoch	GPU_mem	box_loss		dfl_loss		Siz
0:	167/300	2.91G	0.597	0.3834	0.9329	142	64
	100%	80/	80 [00:05<00	0:00, 14.09			
0	100% mAP50-95):	80/ Class 100%	80 [00:05<00 Images 6/6	0:00, 14.09 Instances [00:00<00:	Box(P 00, 9.03it	R :/s]	mAP5
0	mAP50-95):	80/ Class 100%	80 [00:05<00 Images 6/6 182	0:00, 14.09 Instances [00:00<00: 715	Box(P 00, 9.03it 0.923	R :/s] 0.826	mAP5
	mAP50-95): 0.647 Epoch	80/ Class 100% all	80 [00:05<00 Images 6/6 182 box_loss	0:00, 14.09 Instances [00:00<00: 715 cls_loss	Box(P 00, 9.03it 0.923 dfl_loss	R [/s] 0.826 Instances	mAP5 0.88 Siz
1 e	mAP50-95):	80/ Class 100% all GPU_mem 2.91G 80/	80 [00:05<00 Images 6/6 182 box_loss 0.5888 80 [00:05<00	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763	Box(P 00, 9.03it 0.923 dfl_loss 0.9293	R :/s] 0.826 Instances	mAP5 0.88 Siz 64
1 e	mAP50-95): 0.647 Epoch 168/300	80/ Class 100% all GPU_mem 2.91G 80/ Class 100%	80 [00:05<00 Images 6/6 182 box_loss 0.5888 80 [00:05<00 Images 6/6	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763 0:00, 14.70 Instances [00:00<00:	Box(P 00, 9.03it 0.923 dfl_loss 0.9293 0it/s] Box(P 00, 9.24it	R (7/s] 0.826 Instances 96 R (7/s]	mAP5 0.88 Siz 64 mAP5
1 e	mAP50-95): 0.647 Epoch 168/300 100% mAP50-95): 0.669	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all	80 [00:05<00 Images 6/6 182 box_loss 0.5888 80 [00:05<00 Images 6/6 182	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763 0:00, 14.70 Instances [00:00<00: 715	Box(P 00, 9.03it 0.923 dfl_loss 0.9293 0it/s] Box(P 00, 9.24it 0.93	R 2/s] 0.826 Instances 96 R 2/s] 0.828	mAP5 0.88 Siz 64 mAP5 0.89
1 e 0:	mAP50-95): 0.647 Epoch 168/300 100% mAP50-95): 0.669 Epoch	80/ Class 100% all GPU_mem 2.91G	80 [00:05<00 Images 6/6 182 box_loss 0.5888 80 [00:05<00 Images 6/6 182 box_loss	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763 0:00, 14.70 Instances [00:00<00: 715 cls_loss	Box(P 00, 9.03it 0.923 dfl_loss 0.9293 0it/s] Box(P 00, 9.24it 0.93 dfl_loss	R 2/s] 0.826 Instances 96 R 2/s] 0.828 Instances	mAP5 0.88 Siz 64 mAP5 0.89 Siz
1 e 0: 0	mAP50-95): 0.647 Epoch 168/300 100% mAP50-95): 0.669 Epoch 169/300	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/	80 [00:05<00 Images 6/6 182 60:05<00 Images 6/6 182 6/6 182 6/6 182 6/6 182 6/5986 6/5	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763 0:00, 14.70 Instances [00:00<00: 715 cls_loss	Box(P 00, 9.03it 0.923 dfl_loss 0.9293 0it/s] Box(P 00, 9.24it 0.93 dfl_loss 0.9403	R 2/s] 0.826 Instances 96 R 2/s] 0.828 Instances	mAP5 0.88 Siz 64 mAP5 0.89 Siz 64
1 e 0: 0	mAP50-95): 0.647 Epoch 168/300 100% mAP50-95): 0.669 Epoch	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class 100% 80/	80 [00:05<00 Images 6/6 182 box_loss 0.5888 80 [00:05<00 Images 6/6 182 box_loss 0.5986 80 [00:05<00 Images 6/6 Images 6/6 16/6	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763 0:00, 14.70 Instances [00:00<00: 715 cls_loss 0.3847 0:00, 14.04 Instances [00:00<00:	Box(P 00, 9.03it 0.923 dfl_loss 0.9293 0it/s] Box(P 00, 9.24it 0.93 dfl_loss 0.9403 it/s] Box(P 0.939)	R 2/s] 0.826 Instances 96 R 2/s] 0.828 Instances 125 R	mAP5 0.88 Siz 64 mAP5 0.89 Siz 64 mAP5
1 e 0: 0 1 e	mAP50-95): 0.647 Epoch 168/300 100% mAP50-95): 0.669 Epoch 169/300 100%	80/ Class 100% all GPU_mem 2.91G	80 [00:05<00 Images 6/6 182 6/6 182 6/6 182 6/6 182 6/6 182 6/6 182 6/6 182 6/5 60 1 80 [00:05<00 Images 6/6 182 6/6	0:00, 14.09 Instances [00:00<00: 715 cls_loss 0.3763 0:00, 14.70 Instances [00:00<00: 715 cls_loss 0.3847 0:00, 14.04 Instances	Box(P 00, 9.03it 0.923 dfl_loss 0.9293 0it/s] Box(P 00, 9.24it 0.93 dfl_loss 0.9403 it/s] Box(P 00, 7.39it 0.951	R 2/s] 0.826 Instances 96 R 2/s] 0.828 Instances 125 R 2/s] 0.796	mAP5 0.88 Siz 64 mAP5 0.89 Siz 64

ο.	170/300 100%	2.91G	0.5971 0 [00:05<0		0.9331	87	64
		Class	Images	Instances	Box(P		mAP5
0	IIIAP30-93):	100% all	182	715	00, 10.75it 0.914	0.819	0.8
8	0.662						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
٥.	171/300				0.9371	112	64
0:	100%		0 [00:05<00 Images		Box(P	R	mAP5
0	mAP50-95):	100%	6/6		00, 8.47it	:/s]	
7	0.002	all	182	715	0.929	0.813	0.87
7	0.663	CDII	hav. 1	-1- 1	441 1	Tuetere	C:-
е	Epoch	GPU_mem	DOX_LOSS	CLS_LOSS	dfl_loss	instances	Siz
	172/300	2.91G	0.588	0.3785	0.9326	128	64
0:	100%		0 [00:05<0				
_	ADEO (15)		_		Box(P	R	mAP5
0	MAP50-95):	100% all	182	715	00, 9.69it 0.908	[/s] 0.82	0.88
2	0.661	acc	102	713	0.900	0.02	0.00
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·	_			_		
	173/300				0.9297	153	64
0:	100%				Pit/s] Box(P	R	mAP5
0	mAP50-95):				:00, 9.09it		IIIAFJ
		all	182	715	0.916		0.88
4	0.659						
_	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	174/300	2.91G	0 5015	0.3805	0.9364	93	64
0:	100%		0.5915 0 [00:05<0			93	04
			Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100%			00, 9.33it		0.00
1	0.66	all	182	715	0.927	0.805	0.88
	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	_p	o. oo	207_	010_1000	u		
	175/300	2.91G	0.5868	0.3786	0.9349	113	64
0:	100%		0 [00:05<0				4.0.5
0	mΔP50-05).	Class	Images		Box(P :00, 9.18it	R ·/s1	mAP5
U	IIIAI 30 33).	all	182	715	0.92	0.821	0.88
2	0.656						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
ο.	176/300 100%	2.91G	0.5964 0 [00:05<0	0.3766 0.14 0	0.9326	113	64
0:	100-0	Class		Instances		R	mAP5
0	mAP50-95):	100%			00, 9.59it		
U							

2	0.658	all	182	715	0.911	0.829	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	177/300 100%	2.91G 80/8		0.3727 9:00, 14.72		121	64
0		Class	Images	Instances		R :/s]	mAP5
4	0.655	all	182	715	0.911	0.836	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	178/300 100%	2.91G 80/8		0.3721 0:00, 14.55		122	64
0			Images	Instances		R :/s]	mAP5
7	0.662	all	182	715	0.927	0.823	0.88
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	179/300 100%	2.91G		0.3769 9:00, 14.40		129	64
0		Class	Images	Instances		R :/s]	mAP5
1	0.661	all	182	715	0.934	0.82	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	180/300 100%	2.91G 80/8	0.5834 0 [00:05<0	0.3707 9:00. 14.69		178	64
	mAP50-95):	Class	Images	Instances	Box(P :00, 8.78it	R :/s1	mAP5
3	0.667	all	182	715	0.928	0.828	0.89
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	181/300 100%	2.91G	0.5788	0.3735 0:00, 13.80		146	64
0.	mAP50-95):	Class	Images	Instances		R	mAP5
1	0.661	all	182	715	0.928	0.819	0.89
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	182/300 100%	2.91G		0.376 9:00, 14.48	0.9325	82	64
0.	mAP50-95):	Class	Images	Instances		R	mAP5
3	0.674	all	182	715	0.935	0.823	0.89
_	2.0.1						

e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	183/300 100%	2.91G 80/8	0.573 80 [00:05<0		0.925 7it/s]	127	64
0	mAP50-95):	100%	Images 6/6		Box(P :00, 9.38it		mAP5
1	0.669	all	182	715	0.926	0.835	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	184/300 100%		0.5835 80 [00:05<00			129	64
0		Class	Images 6/6	Instances	Box(P		mAP5
9	0.663	all	182	715	0.936	0.825	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 •	185/300 100%		0.5777 80 [00:05<00			108	64
0		Class	Images 6/6	Instances	Box(P	R	mAP5
3	0.665	all	182	715	0.923		0.89
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	·		0.5684			133	64
	100%	Class	80 [00:05<00 Images	Instances	Box(P		mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00:	. <mark>00, 9.41it</mark> 0.922	0.827	0.88
8	0.67 Epoch	CDII mom	box_loss	cle loce	dfl loss	Instances	Siz
е				_	_		
0:	187/300 100%	2.91G 80/8	0.5812 80 [00:05<00	0.378 9:00, 14.4		129	64
0	mAP50-95):		Images 6/6	Instances [00:00<00:		R t/s]	mAP5
9	0.672	all	182	715	0.92	0.833	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	188/300 100%	2.91G 80/8	0.5672 80 [00:05<0	0.3694 9:00, 14.50		109	64
0	mAP50-95):	Class	Images 6/6		Box(P :00, 9.27it	R t/s]	mAP5
2	0.669	all	182	715	0.918	0.84	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

0.	189/300 100%	2.91G	0.5708 30 [00:05<00	0.3693		89	64
0.		Class	Images	Instances	Box(P :00, 9.28it		mAP5
U	mAP50-95):	all	182	715	0.934	0.828	0.8
9	0.663						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	190/300	2.91G		0.3649		142	64
⊍:	100%		30 [00:05<00 Images		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 9.19it	:/s]	
9	0.665	all	182	715	0.936	0.826	0.88
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·	_	_	_	_		
0.	191/300				0.9276	114	64
⊍:	100%		30 [00:05<00 Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 9.36it	_	
1	0.668	all	182	715	0.926	0.83	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	192/300 100%				0.9229 Bit/sl	99	64
0		Class	Images	Instances	Box(P :00, 8.92it	R :/s1	mAP5
9	0.666	all	182	715	0.939		0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	193/300	2.91G	0.5747	0.3658	0.9231	158	64
0:	100%	80/8	80 [00:05<00	9:00, 14.04	lit/s]		
0	mAP50-95):		Images		Box(P :00, 8.92it	R ·/s1	mAP5
U		all	182	715	0.941	0.811	0.88
9	0.671						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	194/300	2.91G	0.5675	0.3652	0.9242	92	64
0:	100%	80/8	80 [00:05<00				
0	mAP50-95):		Images		Box(P :00, 9.42it	./s1	mAP5
		all	182	715	0.942	0.817	0.89
1	0.665					.	
		CD::					
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	195/300	2.91G	0.5623	0.3631	0.9228	121	64
	·	2.91G 80/8 Class	0.5623 30 [00:05<00 Images	0.3631 0:00, 14.71 Instances	0.9228 lit/s]	121 R	

7	0.663	all	182	715	0.924	0.819	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:	196/300 100%		80 [00:05<00		oit/s]	113	64
0	mAP50-95):		6/6		00, 8.67it		mAP5
9	0.667	all	182	715	0.901	0.845	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	197/300 100%	2.91G 80/	0.5715 80 [00:05<00	0.3631 9:00, 14.19		105	64
0	mAP50-95):	Class	Images		Box(P		mAP5
8	0.665	all	182	715	0.939	0.81	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	198/300 100%	2.91G	0.571 80 [00:05<00	0.3628 0:00. 13.78		148	64
0	mAP50-95):	Class	Images	Instances	Box(P :00, 8.63it		mAP5
8	0.667	all	182	715	0.945	0.803	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	199/300 100%	2.91G	0.554 80 [00:05<00			118	64
0.		Class	Images	Instances	Box(P	R	mAP5
5	IIIAF 30-93).	100%		100.00/00.		-/cl	
,	0 662	all		[00:00<00: 715	0.943	0.807	0.88
	0.662 Epoch		182	715		0.807	0.88 Siz
е	Epoch 200/300	all GPU_mem	182	715 cls_loss	0.943	0.807 Instances	
	Epoch	all GPU_mem 2.91G 80/	182 box_loss 0.5558 80 [00:05<06 Images	715 cls_loss 0.3535 9:00, 14.39 Instances	0.943 dfl_loss 0.918 0it/s] Box(P	0.807 Instances 144 R	Siz
	Epoch 200/300	all GPU_mem 2.91G	182 box_loss 0.5558 80 [00:05<06 Images 6/6	715 cls_loss 0.3535 9:00, 14.39 Instances [00:00<00:	0.943 dfl_loss 0.918 0it/s] Box(P 100, 8.03it	0.807 Instances 144 R	Siz 64 mAP5
0:	Epoch 200/300 100%	GPU_mem 2.91G 80/ Class	182 box_loss 0.5558 80 [00:05<06 Images	715 cls_loss 0.3535 9:00, 14.39 Instances	0.943 dfl_loss 0.918 0it/s] Box(P	0.807 Instances 144 R	Siz 64
0:	Epoch 200/300 100% mAP50-95):	all GPU_mem 2.91G	182 box_loss 0.5558 80 [00:05<00 Images 6/6 182	715 cls_loss 0.3535 0:00, 14.39 Instances [00:00<00: 715	0.943 dfl_loss 0.918 0it/s] Box(P 100, 8.03it	0.807 Instances 144 R 2/s] 0.814	Siz 64 mAP5
0: 0 9	Epoch 200/300 100% mAP50-95): 0.664	GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G	182 box_loss 0.5558 80 [00:05<00 Images 6/6 182	715 cls_loss 0.3535 9:00, 14.39 Instances [00:00<00: 715 cls_loss 0.3622	0.943 dfl_loss 0.918 0it/s] Box(P 0.929 dfl_loss 0.9216	0.807 Instances 144 R 2/s] 0.814	Siz 64 mAP5 0.88
0: 0 9	Epoch 200/300 100% mAP50-95): 0.664 Epoch 201/300 100%	GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class	182 box_loss 0.5558 80 [00:05<06] Images 6/6 182 box_loss 0.5613	715 cls_loss 0.3535 9:00, 14.39 Instances [00:00<00: 715 cls_loss 0.3622 9:00, 13.88 Instances	0.943 dfl_loss 0.918 0it/s] Box(P 0.929 dfl_loss 0.9216 Bit/s] Box(P	0.807 Instances 144 R (/s] 0.814 Instances 85	Siz 64 mAP5 0.88 Siz
0: 0 9 e	Epoch 200/300 100% mAP50-95): 0.664 Epoch 201/300 100%	GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class	182 box_loss 0.5558 80 [00:05<06] Images 6/6 182 box_loss 0.5613 80 [00:05<06] Images	715 cls_loss 0.3535 9:00, 14.39 Instances [00:00<00: 715 cls_loss 0.3622 9:00, 13.88 Instances	0.943 dfl_loss 0.918 0it/s] Box(P 0.929 dfl_loss 0.9216 Bit/s] Box(P	0.807 Instances 144 R [/s] 0.814 Instances 85 R	Siz 64 mAP5 0.88 Siz 64

0.	202/300 100%	2.91G	0.5553 30 [00:05<0		0.9191	155	64
		Class	Images	Instances	Box(P 00, 10.03it		mAP5
0	mAP50-95):	all	182	715	0.945	0.793	0.8
9	0.666						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	203/300	2.91G	0.5617	0.3583	0.9266	122	64
0:	100%		30 [00:05<0				ADE
0	mΔP50-95)·		Images		Box(P 00, 9.77it	R ·/s1	mAP5
		all	182	715	0.946	0.807	0.88
9	0.672						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	204/200	2 010	O EE04	0 2522	0 0224	1.40	6.4
0:	204/300 100%		0.5584 30 [00:05<0		0.9234 Bit/sl	143	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				00, 9.48it 0.924		0.07
9	0.668	all	182	715	0.924	0.805	0.87
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·	_	_	_	_		
0	205/300				0.9208	157	64
⊍:	100%		30 [00:05<00 Images		Box(P	R	mAP5
0	mAP50-95):				00, 10.06it		
8	0.671	all	182	715	0.936	0.809	0.88
0	Epoch	GPU mem	hov loss	cle loss	dfl loss	Instances	Siz
е	Еросп	GFU_IIIEIII	DOX_COSS	Cts_t0ss	u1t_t055	Tilstalices	312
	206/300	2.91G	0.5458	0.3515	0.9235	111	64
0:	100%		30 [00:05<0				
0	mAP50-95):		Images		Box(P 00, 9.62it	R . / c 1	mAP5
U	IIIAF 30 - 93).	all	182	715	0.939	0.804	0.88
5	0.665						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	227 /222						
ი -	207/300 100%	2.91G	0.5652 30 [00:05<0	0.3642 9.00 14 75		121	64
0.	100.9		Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	00, 8.89it		
7	0.665	all	182	715	0.918	0.818	0.87
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	208/300	2.91G	0.5529	0.3537	0.912	110	64
0:	100%		30 [00:05<00				
0:	mAP50-95):	Class	Images	Instances	⊧it/s] Box(P :00, 9.28it	R	mAP5

6	0.669	all	182	715	0.933	0.821	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:	209/300 100%	2.91G 80/8	0.5531 80 [00:05<00	0:00, 14.62	it/s]	150	64
0	mAP50-95):	Class		[00:00<00:	Box(P 00, 9.15it	:/s]	mAP5
8	0.669	all	182	715	0.934	0.818	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	210/300 100%	80/8	0.5495 80 [00:05<00			125	64
0	mAP50-95):			[00:00<00:	Box(P 00, 9.83it	:/s]	mAP5
2	0.671	all	182	715	0.936	0.815	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	211/300 100%		0.5483 80 [00:05<06		it/s]	125	64
0	mAP50-95):	100%			Box(P 00, 9.34it		mAP5
9	0.673	all	182	715	0.948	0.817	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	212/300 100%	80/8	0.5464 80 [00:05<00	0:00, 14.64	it/s]	128	64
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 10.00it		mAP5
9	0.672		182			0.831	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	213/300 100%	2.91G 80/8	0.5412 80 [00:05<00	0.3495 0:00, 14.47	0.9189 it/s]	134	64
0	mAP50-95):			[00:00<00:	Box(P 00, 8.60it		mAP5
9	0.669	all	182	715	0.941	0.816	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	214/300 100%		0.5478 30 [00:05<00		it/s]	131	64
0	mAP50-95):				00, 10.00it		mAP5
9	0.67	all	182	715	0.923	0.831	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

۵.	215/300 100%	2.91G	0.5469 80 [00:05<0		0.9176	144	64
0		Class	Images	Instances	Box(P :00, 9.62it	R(61	mAP5
		all	182	715	0.918	0.836	0.88
7	0.668						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	216/300				0.9202	117	64
0:	100%		00:05<0			D.	A D.E.
0	mΔP50-95)·				Box(P :00, 9.52it		mAP5
U	III/(130 33).	all	182	715	0.932	0.808	0.88
5	0.669						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	217/300				0.9115	108	64
0:	100%		0 [00:05<0				ADE
0	mAD50 05).		Images		Box(P :00, 9.76it	R . /c1	mAP5
U	IIIAP30-93):	all	182	715	0.923	0.822	0.88
5	0.668	acc	102	713	0.323	0.022	0.00
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	Zpoen.	01 0e	20X_033	013_1033	u. c_coss	instances	312
	218/300	2.91G	0.5392	0.3479	0.9112	152	64
0:	100%					102	0.
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				:00, 9.72it		
0	0.676	all	182	715	0.93	0.814	0.88
8	0.676					_	
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	212 (222	2 212	0 5000	0.0440	0.0141	100	6.4
0.	219/300 100%	2.91G	0.5389 80 [00:05<0	0.3449		128	64
0:	100%		Images			R	mAP5
0	mAP50-95):	100%			:00, 9.46it		III/II 3
	,	all	182	715	0.939	0.802	0.8
9	0.672						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	220/300	2.91G	0.5487	0.3517	0.9142	147	64
0:	100%		80 [00:05<00				
0	ADEQ .0E.\		Images			R 1	mAP5
0	MAP50-95):	100% all	182	715	:00, 8.80it 0.937	0.808	0.88
7	0.67	att	102	/ 13	0.337	0.000	0.00
	Epoch	GPU_mem	hox loss	cls_loss	dfl loss	Instances	Siz
е	Еросп	di o_illelli	DOX_(033	Ct3_t033	411_1033	instances	312
			0 5005	0 0465	0 0107	172	64
	221/300	2.91G		0.3465		173	04
0:	221/300 100%	80/8	80 [00:05<00	0:00, 14.30	Dit/s]		
0:		80/8 Class	00:05<00 Images	0:00, 14.30 Instances	Dit/s]	R	mAP5

7	0.673	all	182	715	0.914	0.826	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	222/300 100%		80 [00:05<00		Bit/s]		64
0	mAP50-95):	100%		[00:00<00:	00, 9.80it		mAP5
7	0.669	all	182	715	0.937	0.817	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	223/300 100%	2.91G 80/	0.5358 80 [00:05<00	0.3427 0:00, 14.50		119	64
0	mAP50-95):		Images 6/6		Box(P 00, 9.83it		mAP5
2	0.67	all	182	715	0.916	0.82	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0 :	224/300 100%		0.5234 80 [00:05<00			143	64
0	mAP50-95):	Class	Images	Instances	Box(P 00, 9.26it		mAP5
2	0.674	all	182	715	0.93	0.814	0.89
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	225/300	2.91G	0.5292			131	64
0:			00 100 05 -00	0.00 1/116) / 5		
	100%	80/ Class	80 [00:05<00 Images	Instances	Box(P	R(c.1	mAP5
0	100% mAP50-95):	80/ Class 100%		<pre>Instances [00:00<00:</pre>	Box(P 00, 10.15it		mAP5 0.89
0	100%	80/ Class 100%	Images 6/6 182	Instances [00:00<00: 715	Box(P 00, 10.15it	0.824	
0	100% mAP50-95): 0.676	80/ Class 100% all	Images 6/6 182	Instances [00:00<00: 715 cls_loss	Box(P 00, 10.15it 0.926 dfl_loss	0.824 Instances	0.89
0 3 e	mAP50-95): 0.676 Epoch	80/ Class 100% all GPU_mem 2.91G	Images 6/6 182 box_loss 0.5342 80 [00:05<00	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 'it/s]	0.824 Instances 146	0.89 Siz 64
0 3 e	mAP50-95): 0.676 Epoch 226/300	80/ Class 100% all GPU_mem 2.91G 80/ Class 100%	Images 6/6 182 box_loss 0.5342 80 [00:05<00 Images 6/6	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47 Instances [00:00<00:	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 it/s] Box(P 00, 9.21it	0.824 Instances 146 R	0.89 Siz 64 mAP5
0 3 e 0:	100% mAP50-95): 0.676 Epoch 226/300 100%	Class 100% all GPU_mem 2.91G 80/ Class	Images 6/6 182 box_loss 0.5342 80 [00:05<00 Images	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47 Instances	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 'it/s] Box(P	0.824 Instances 146	0.89 Siz 64
0 3 e 0:	100% mAP50-95): 0.676 Epoch 226/300 100% mAP50-95):	80/ Class 100% all GPU_mem 2.91G 80/ Class 100%	Images 6/6 182 box_loss 0.5342 80 [00:05<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47 Instances [00:00<00: 715	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 it/s] Box(P 00, 9.21it	0.824 Instances 146 R 2/s] 0.814	0.89 Siz 64 mAP5
0 3 e 0: 0	100% mAP50-95): 0.676 Epoch 226/300 100% mAP50-95): 0.666 Epoch	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G	Images 6/6 182 box_loss 0.5342 80 [00:05<00] Images 6/6 182 box_loss 0.5394	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47 Instances [00:00<00: 715 cls_loss 0.3434	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 it/s] Box(P 00, 9.21it 0.925 dfl_loss 0.9157	0.824 Instances 146 R 2/s] 0.814	0.89 Siz 64 mAP5
0 3 e 0: 0	100% mAP50-95): 0.676 Epoch 226/300 100% mAP50-95): 0.666 Epoch 227/300 100%	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class	Images 6/6 182 box_loss 0.5342 80 [00:05<00] Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47 Instances [00:00<00: 715 cls_loss 0.3434 0:00, 14.07 Instances	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 it/s] Box(P 00, 9.21it 0.925 dfl_loss 0.9157 it/s] Box(P	0.824 Instances 146 R 7/s] 0.814 Instances	0.89 Siz 64 mAP5 0.8
0 3 e 0: 0 9	100% mAP50-95): 0.676 Epoch 226/300 100% mAP50-95): 0.666 Epoch 227/300 100%	80/ Class 100% all GPU_mem 2.91G 80/ Class 100% all GPU_mem 2.91G 80/ Class	Images 6/6 182 box_loss 0.5342 80 [00:05<00] Images 6/6 182 box_loss 0.5394 80 [00:05<00] Images	Instances [00:00<00: 715 cls_loss 0.3381 0:00, 14.47 Instances [00:00<00: 715 cls_loss 0.3434 0:00, 14.07 Instances	Box(P 00, 10.15it 0.926 dfl_loss 0.9117 it/s] Box(P 00, 9.21it 0.925 dfl_loss 0.9157 it/s] Box(P	0.824 Instances 146 R 7/s] 0.814 Instances	0.89 Siz 64 mAP5 0.8 Siz

0.	228/300 100%	2.91G	0.5315 80 [00:05<0		0.9106	94	64
0.		Class	Images	Instances	Box(P :00, 9.06it		mAP5
U	IIIAP30-93):	all	182	715	0.94	0.807	0.88
9	0.662						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	229/300	2.91G			0.9081	164	64
0:	100%		30 [00:05<00 Tmages		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00	00, 9.82it	:/s]	
5	0.672	all	182	715	0.939	0.815	0.89
,	Epoch	GPU mem	hox loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0	BOX_0033	0.03_0000	u	instances	312
0:	230/300 100%		0.5262 80 [00:05<0		0.9078 7it/sl	124	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00; 715	00, 8.79it 0.939	0.816	0.89
2	0.673	acc	102	713	0.555	0.010	0.03
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	231/300	2.91G	0.536	0.3431	0.9133	107	64
0:	100%					R	m A DE
0	mAP50-95):		Images 6/6		Box(P :00, 9.23it		mAP5
5	0.674	all	182	715	0.935		0.89
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	222 (222	2 010	0 5000	0 2200	0 0077	100	6.4
0:	232/300 100%	2.91G 80/8	0.5282 80 [00:05<0	0.3382 0:00. 13.98		132	64
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00:	00, 8.51it 0.925	0.823	0.89
4	0.67	acc	102	713	0.923	0.023	0.09
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
6	233/300	2.91G	0.5332	0.3391	0.9107	124	64
0:	100%	80/8	80 [00:05<0	9:00, 14.10	oit/s]	124	04
0	mADEO OE\.		Images			R . / c 1	mAP5
0	IIIAP30-93):	100% all	182	715	00, 9.14it 0.932	0.82	0.8
9	0.668						
e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	234/300	2.91G		0.3347		123	64
0:	100%	80/8 Class	30 [00:05<0	0:00, 14.55 Instances		R	mAP5
		CLUJJ	TIIIUUUU	TIID CUITCO	DUAL	11	111/11/1
0	mAP50-95):	100%			00, 9.63it	:/s]	

9	0.665	all	182	715	0.942	0.814	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	235/300 100%		0.534 80 [00:05<00	0.3441 0:00, 14.33		124	64
0	mAP50-95):		Images 6/6			R :/s]	mAP5
6	0.671	all	182	715	0.928	0.823	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	236/300 100%		0.5338 80 [00:05<00			133	64
0	mAP50-95):	Class	Images 6/6	Instances	Box(P		mAP5
1	0.675	all	182	715	0.924	0.821	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	237/300 100%		0.5171 80 [00:05<00	0.3301 0:00. 14.35		159	64
0		Class	Images 6/6	Instances	Box(P		mAP5
3	0.67	all	182	715	0.923	0.837	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	238/300 100%		0.5241 80 [00:05<00			155	64
		Class	Images 6/6	Instances	Box(P	R :/s]	mAP5
2	0.668		182			0.81	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	239/300 100%	2.91G	0.5191 80 [00:05<00	0.333 0:00. 14.49		168	64
0	mAP50-95):	Class	Images	Instances			mAP5
6	0.671	all		715	0.941	0.811	0.88
e		GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	240/300 100%		0.5274 80 [00:05<00			137	64
0.		Class	Images 6/6	Instances	Box(P		mAP5
7	0.67	all	182	715	0.935	0.816	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

ი.	241/300 100%	2.91G	0.5103 80 [00:05<0		0.904	143	64
		Class	Images	Instances	Box(P		mAP5
0	mAP50-95):	all	182	715	.00, 9.44it 0.922	0.823	0.88
5	0.672						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	242/300	2.91G	0.528	0.3399	0.911	73	64
0:	100%		30 [00:05<0	•	· -	D	A D.E
0	mAP50-95):				Box(P :00, 9.25it		mAP5
		all	182	715	0.925	0.825	0.88
7	0.667						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
-	243/300	2.91G	0.521	0.3317	0.9064	79	64
0:	100%		30 [00:05<0			, ,	04
					Box(P	R	mAP5
0	mAP50-95):	100% 	182	715	.00, 10.17it 0.924	0.824	0.8
9	0.669	acc	102	715	0.524	0.024	0.0
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0	244/300				0.9038	119	64
0:	100%				Box(P	R	mAP5
0	mAP50-95):				:00, 10.08it		111111 3
2	0.667	all	182	715	0.915	0.826	0.88
3	0.667	GPU mem	hay lace	olo loco	dfl loss	Tnotancos	Siz
е	Epoch	GPU_IIIEIII	DOX_LOSS	C15_1055	011_1055	Thistances	512
	245/300	2.91G	0.5159	0.3308	0.9045	120	64
0:	100%	80/8	30 [00:05<00	0:00, 14.75	Sit/s]		
0	mAP50-95):		Images		Box(P :00, 8.76it	R . /c1	mAP5
U	IIIAF 30 - 93).	all	182	715	0.92	0.831	0.88
8	0.67						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	246 (200	2.016	0 5114	0 2277	0 0001	126	6.4
0 :	246/300 100%	2.91G	0.5114 30 [00:05<0	0.3277 0.14.10		126	64
0.	100 0		Images			R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 9.72it		0.00
8	0.672	all	182	715	0.927	0.819	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
_	247/300	2.91G	0.5171	0.3322	0.9043	125	64
0:	100%		30 [00:05<00			123	04
		Class	Tmages	Instances	Box(P	R	mAP5
0	mAP50-95):		•		:00, 8.83it		

7	0.671	all	182	715	0.929	0.825	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	248/300 100%	2.91G 80/8	0.5131 30 [00:05<00	0.3296 0:00, 14.73		111	64
0	mAP50-95):	Class	6/6	[00:00<00:	Box(P 00, 9.62it	:/s]	mAP5
9	0.674	all	182	715	0.923	0.835	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	249/300 100%		0.5211 30 [00:05<00	9:00, 14.42	it/s]	128	64
0	mAP50-95):			[00:00<00:	Box(P 00, 10.07it	:/s]	mAP5
8	0.67	all	182	715	0.923	0.826	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	250/300 100%		0.5087 80 [00:05<00		it/s]	84	64
0	mAP50-95):	100%			Box(P 00, 9.40it		mAP5
7	0.676	all	182	715	0.926	0.826	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	251/300 100%	80/8	0.5153 30 [00:05<00	•		108	64
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 8.97it		mAP5
7	0.676		182			0.824	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	252/300 100%	2.91G 80/8	0.5095 30 [00:05<00	0.3276 0:00, 14.15	0.904 it/s]	111	64
0	mAP50-95):			[00:00<00:	Box(P 00, 9.27it		mAP5
2	0.672	all	182	715	0.959	0.797	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	253/300 100%	2.91G 80/8	0.5095 30 [00:05<00	0.3248 0:00, 14.31		118	64
0	mAP50-95):				Box(P 00, 8.88it		mAP5
8	0.672	all	182	715	0.926	0.827	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

۵.	254/300 100%	2.92G	0.5123 0 [00:05<0	0.3316		102	64
0.		Class	Images	Instances	Box(P :00, 8.81it		mAP5
		all	182	715	0.934	0.818	0.88
8	0.669	0011			163. 3		0.1
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	255/300	2.92G			0.9042	134	64
0:	100%		0 [00:05<0		7it/s] Box(P	R	mAP5
0	mAP50-95):				:00, 9.01it		IIIAI 3
		all	182	715		0.822	0.88
9	0.669						
•	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	256/300	2 020	0 5054	0 222	0.9024	139	64
0:	100%		0.3034			139	04
		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):			_	:00, 9.31it	_	0.00
9	0.673	all	182	715	0.952	0.802	0.88
	Epoch	GPU mem	hov loss	cle loce	dfl loss	Instances	Siz
е	Еросп	or o_illelli	DOX_033	CC3_C033	u1 (_ (033	Tilstalices	312
	257/300	2.92G	0.5057	0.3246	0.8965	127	64
0:	100%	80/8					
0	mAD50_05).		Images		Box(P :00, 9.53it	R . / c 1	mAP5
U	IIIAF 30 - 93).	all	182	715	0.941		0.89
1	0.671						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0.	258/300	2.92G		0.3195		149	64
0:	100%		0 [00:05<0 Images			R	mAP5
0	mAP50-95):	100%			:00, 9.29it		
_	0 671	all	182	715	0.949	0.805	0.89
1	0.671	CDU			163 3	.	0.1
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	259/300	2.92G	0.5038	0.3228	0.8971	112	64
0:	100%		0.3030			112	04
			Images			R	mAP5
0	mAP50-95):	100%			:00, 9.52it		0.00
1	0.672	all	182	715	0.922	0.828	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	260/300	2.92G	0.4987	0.3229	0.8962	139	64
0:	100%	80/8	0 [00:05<0	0:00, 14.00	0it/s]		
0	mADEO OE\.	Class		Instances		R . /c1	mAP5
(.)	mAP50-95):	T002	0/0	[00:00<00	:00, 9.17it	./5]	

1	0.671	all	182	715	0.927	0.822	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	261/300 100%	2.92G 80/	80 [00:05<00		/it/s]	126	64
0	mAP50-95):		6/6	[00:00<00:	Box(P 00, 8.92it	:/s]	mAP5
9	0.67	all	182	715	0.93	0.822	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	262/300 100%	80/	0.5088 80 [00:05<00	9:00, 13.55	sit/s]		64
0	mAP50-95):			[00:00<00:	Box(P 00, 9.59it	:/s]	mAP5
1	0.67	all	182	715	0.94	0.819	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	263/300 100%	80/	0.4944 80 [00:05<00	9:00, 13.87	/it/s]		64
0	mAP50-95):	100%			00, 10.35it		mAP5
4	0.671	all	182	715	0.933	0.826	0.89
е	Epoch	GPU_mem	box_loss	_	dfl_loss	Instances	Siz
0:	264/300 100%		0.4994 80 [00:05<00		0.9011	117	64
0			-	•		_	
	mAP50-95):	Class 100%	Images 6/6	<pre>Instances [00:00<00:</pre>	Box(P 00, 8.93it	:/s]	mAP5
4	0.669	Class 100% all	Images 6/6 182	Instances [00:00<00: 715	Box(P 00, 8.93it 0.936	0.815	0.89
4 e	0.669 Epoch	Class 100% all	Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss	Box(P 00, 8.93it 0.936 dfl_loss	0.815 Instances	0.89 Siz
е	0.669	Class 100% all GPU_mem 2.92G	Images 6/6 182 box_loss 0.4938 80 [00:05<00	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 lit/s]	0.815 Instances	0.89 Siz 64
е	0.669 Epoch 265/300	Class 100% all GPU_mem 2.92G	Images 6/6 182 box_loss 0.4938 80 [00:05<00 Images 6/6	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24 Instances [00:00<00:	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 it/s] Box(P 00, 9.28it	0.815 Instances 121 R	0.89 Siz 64 mAP5
e 0:	0.669 Epoch 265/300 100% mAP50-95): 0.668	Class 100% all GPU_mem 2.92G 80/6 Class 100% all	Images 6/6 182 box_loss 0.4938 80 [00:05<00 Images 6/6 182	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24 Instances [00:00<00: 715	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 it/s] Box(P 00, 9.28it 0.932	0.815 Instances 121 R 2/s] 0.817	0.89 Siz 64 mAP5
e 0:	0.669 Epoch 265/300 100% mAP50-95): 0.668 Epoch	Class 100% all GPU_mem 2.92G	Images 6/6 182 box_loss 0.4938 00:05<00 Images 6/6 182 box_loss	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24 Instances [00:00<00: 715 cls_loss	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 dit/s] Box(P 00, 9.28it 0.932 dfl_loss	0.815 Instances 121 R (/s] 0.817 Instances	0.89 Siz 64 mAP5 0.8
e 0: 0	0.669 Epoch 265/300 100% mAP50-95): 0.668	Class 100% all GPU_mem 2.92G 80/ Class 100% all GPU_mem 2.92G 80/	Images 6/6 182 box_loss 0.4938 00:05<00 Images 6/6 182 box_loss 0.4982 80 [00:05<00	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24 Instances [00:00<00: 715 cls_loss 0.3227 0:00, 14.67	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 it/s] Box(P 00, 9.28it 0.932 dfl_loss 0.8983	0.815 Instances 121 R 7/s] 0.817 Instances	0.89 Siz 64 mAP5 0.8 Siz
e 0: 0	0.669 Epoch 265/300 100% mAP50-95): 0.668 Epoch 266/300	Class 100% all GPU_mem 2.92G	Images 6/6 182 box_loss 0.4938 00:05<00 Images 6/6 182 box_loss 0.4982 00:05<00 Images 1 6/6 1 8 2	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24 Instances [00:00<00: 715 cls_loss 0.3227 0:00, 14.67 Instances [00:00<00:	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 it/s] Box(P 00, 9.28it 0.932 dfl_loss 0.8983 'it/s] Box(P 00, 9.52it	0.815 Instances 121 R 2/s] 0.817 Instances 120 R 2/s]	0.89 Siz 64 mAP5 0.8 Siz 64 mAP5
e 0: 0 9	0.669 Epoch 265/300 100% mAP50-95): 0.668 Epoch 266/300 100%	Class 100% all GPU_mem 2.92G 80/Class 100% all GPU_mem 2.92G 80/Class	Images 6/6 182 box_loss 0.4938 00:05<00 Images 6/6 182 box_loss 0.4982 80 [00:05<00 Images	Instances [00:00<00: 715 cls_loss 0.3181 0:00, 14.24 Instances [00:00<00: 715 cls_loss 0.3227 0:00, 14.67 Instances	Box(P 00, 8.93it 0.936 dfl_loss 0.9014 dit/s] Box(P 00, 9.28it 0.932 dfl_loss 0.8983 vit/s] Box(P 00, 9.52it 0.928	0.815 Instances 121 R 2/s] 0.817 Instances 120 R 2/s] 0.823	0.89 Siz 64 mAP5 0.8 Siz

ω.	267/300 100%	2.92G	0.4969 0 [00:05<0		0.8984	127	64
0.		Class	Images	Instances	Box(P :00, 9.50it		mAP5
		all	182	715	0.925	0.825	0.89
1	0.674						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	268/300	2.92G	0.4874	0.3126	0.8978	178	64
0:	100%		0 [00:05<0				
0	ADEO OE).				Box(P		mAP5
0	IIIAP30-93):	all	182	715	.00, 9.38it 0.932	0.821	0.89
1	0.673	acc	102	713	0.332	0.021	0.03
	Epoch	GPU mem	hox loss	cls loss	dfl loss	Instances	Siz
е	Еросп	01 0_1110111	box_t033	0.03_0033	u1 t_t033	instances	312
	269/300	2.92G	0.4953	0.3162	0.8988	128	64
0:	100%		0 [00:05<0			120	04
			Images		Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 8.61it	:/s]	
		all	182	715	0.929	0.825	0.89
2	0.676						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
	270/300	2.92G	0.4926	0.3127	0.8949	143	64
0:	100%						
			Images		Box (P	R	mAP5
0	mAP50-95):				:00, 8.94it		0.00
1	0.677	all	182	715	0.925	0.826	0.89
		CDII	h 1	-1- 1	d £ 1 1	Tueteee	C:-
е	Epoch	GPU_mem	DOX_LOSS	cts_toss	dfl_loss	Instances	Siz
-	271 /200	2 026	0 4012	0 2101	0.0067	107	C 4
0.	271/300 100%	2.92G	0.4913	0.3181		107	64
0:	100%		Images			R	mAP5
0	mAP50-95):	100%			:00, 9.27it		IIIAI 3
		all	182	715	0.923	0.823	0.89
3	0.674						
	Epoch	GPU mem	box loss	cls loss	dfl_loss	Instances	Siz
е	·	_	_	_	_		
	272/300	2.92G	0.4915	0.3164	0.897	102	64
0:	100%		0 [00:05<0	9:00, 14.17			
			Images			R	mAP5
0	mAP50-95):	100%			:00, 9.40it		
2	0 677	all	182	715	0.923	0.821	0.89
2	0.677	257:					
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0	273/300	2.92G		0.3123		105	64
⊍:	100%	Class	0 [00:05<0	0:00, 14.09 Instances		D	mAP5
	4550 05)			[00:00<00:		R . / c 1	IIIAPS
0	mAP50-95):	100%	n/n	1 (4)(4) - (4)(4) < (4)(4)	(70). 9 4111	/51	

4	0.677	all	182	715	0.955	0.798	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
Θ:	274/300 100%	2.92G 80/8	0.4929 80 [00:05<00	0.3147 0:00, 13.99		126	64
0	mAP50-95):		6/6	[00:00<00:	Box(P 00, 9.27it	:/s]	mAP5
1	0.675	all	182	715	0.938	0.811	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	275/300 100%	80/8	0.4901 80 [00:05<00	0:00, 14.29	it/s]	113	64
0	mAP50-95):			[00:00<00:	Box(P 00, 9.68it	:/s]	mAP5
9	0.672	all	182	715	0.913	0.831	0.88
е	Epoch	GPU_mem		cls_loss	_		Siz
0:	276/300 100%	80/8	0.4899 80 [00:05<00	0:00, 14.48	it/s]	96	64
0	mAP50-95):	100%			Box(P 00, 9.08it		mAP5
9	0.672	all	182	715	0.907	0.826	0.8
е	Epoch	GPU_mem	box_loss	_	dfl_loss		Siz
0:	277/300 100%	80/8	0.4915 80 [00:05<06			140	64
0	mAP50-95):	100%	Images 6/6 182	[00:00<00:	Box(P 00, 9.52it	R :/s] 0.82	mAP5 0.88
9	0.672						
е	Epoch	GPU_mem	_	_	dfl_loss		Siz
0:	278/300 100%		0.4928 80 [00:05<06	•		123	64
0	mAP50-95):	Class 100% all			Box(P 00, 8.95it 0.932	R :/s] 0.808	mAP5 0.88
8	0.675						
е	Epoch	GPU_mem	box_loss	_	_		Siz
	0-0/000					100	64
0:	279/300 100%		0.483 80 [00:05<06			102	
0: 0		80/8 Class 100%	80 [00:05<00 Images 6/6	0:00, 14.35 Instances [00:00<00:	it/s] Box(P 00, 9.04it	R :/s]	mAP5
	100%	80/8 Class	80 [00:05<00 Images):00, 14.35 Instances	it/s] Box(P 00, 9.04it 0.924	R :/s] 0.816	

۵.	280/300 100%	2.92G	0.4844 80 [00:05<0		0.8959	107	64
		Class	Images	Instances	Box(P		mAP5
0	MAP50-95):	100% all	182	715	00, 8.99it 0.937	0.806	0.8
9	0.672	411	101	, 10	0.007	0.000	0.0
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0.	281/300 100%		0.4878 80 [00:05<0		0.8997	141	64
0:	100%				Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:	:00, 9.15it	:/s]	
1	0.674	all	182	715	0.92	0.823	0.89
1	Epoch	GPU mem	hov loce	cle loce	dfl loss	Instances	Siz
е	Еросп	gro_iiieiii	DOY_(022	Ct5_t055	u1 (_(033	Tilstalices	312
	282/300	2.92G	0.472	0.3054	0.8905	144	64
0:	100%		80 [00:05<0				
0	mΔP50-95)·		•		Box(P :00, 8.92it		mAP5
U	IIIAI 30 33) I	all	182	715	0.924	0.82	0.89
4	0.673						
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	202/200	2 026	0 4000	0 2110	0.0040	111	C 4
0:	283/300 100%				0.8948 Sit/sl	111	64
0.		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):				00, 8.94it		0.00
2	0.672	all	182	715	0.927	0.821	0.89
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	·	_	_	_	_		
	284/300	2.92G		0.3077		113	64
0:	100%		00:06<0 Images			R	mAP5
0	mAP50-95):	100%			:00, 8.52it		IIIAFJ
		all	182	715	0.926	0.821	0.8
9	0.673						
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	285/300	2.92G	0.4881	0.3117	0.8943	119	64
0:	100%		80 [00:07<0			113	0.1
•	4550 05)		Images			R	mAP5
0	mAP50-95):	100% all	182	715	00, 9.48it 0.929	0.821	0.88
9	0.674	ucc	102	, 13	0.529	0.021	0.00
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е							
0	286/300	2.92G		0.3093		114	64
⊍:	100%	Class	30 [00:05<0 Images	:ט:טי, וא.אי Instances		R	mAP5
0	mAP50-95):	100%			:00, 9.73it		

9	0.672	all	182	715	0.927	0.819	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
	287/300 100%	2.92G 80/8	0.4877 80 [00:05<0		0.8969 Bit/sl	145	64
0	mAP50-95):	Class	Images	Instances			mAP5
9	0.677	all	182	715	0.932	0.813	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	288/300 100%	80/8	80 [00:05<00	0:00, 14.19		90	64
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 9.02it	_	mAP5
2	0.676	all	182	715	0.919	0.826	0.89
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss		Siz
0:	289/300 100%	80/8	80 [00:05<00	0:00, 13.89			64
0	mAP50-95):	100%	6/6	[00:00<00:	Box(P 00, 8.76it		mAP5
9	0.674	all	182	715	0.917	0.832	0.8
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	290/300 100%		0.4778 80 [00:05<00			125	64
0	mAP50-95):	Class 100% all	6/6	[00:00<00:	Box(P 00, 10.00it		mAP5
8	0.672		182	715	0.916	0.832	0.88
Cl	osing datal				163 3	. .	6:
е	Epoch	GPU_mem	_	_	dfl_loss		Siz
0:	291/300 100%		0.4845 80 [00:05<00		lit/s]	58	64
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 9.86it		mAP5
6	0.668	all	182	715	0.921	0.819	0.88
е	Epoch	GPU_mem	_	cls_loss		Instances	Siz
0:	292/300 100%		0.4724 80 [00:05<00		?it/s]	64	64
0	mAP50-95):	100%		[00:00<00:	Box(P 00, 8.48it		mAP5
6	0.661	all	182	715	0.93	0.805	0.88

e	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	293/300 100%	2.92G 80/8	0.4626 30 [00:05<0	0.2797 9:00, 14.3		50	64
0	mAP50-95):		6/6	[00:00<00:	Box(P :00, 8.69it	t/s]	mAP5
8	0.662	all	182	715	0.93	0.808	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	294/300 100%		0.4598 30 [00:05<00		0.8521 Bit/s]	65	64
0			Images 6/6		Box(P :00, 10.09it	R [/s]	mAP5
8	0.663	all	182	715	0.924	0.814	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
۵.	295/300 100%		0.4592 30 [00:05<0	0.2767		60	64
0.		Class	Images	Instances		R	mAP5
6	0.666	all	182	715	0.92	0.822	0.88
	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
е	296/300		0.4572			64	64
0:	100%	Class		Instances	Box(P		mAP5
0	mAP50-95):	100% all	6/6 182	[00:00<00: 715	. <mark>00, 9.72i</mark> 1	0.822	0.88
6	0.666 Epoch	GPII mem	hox loss	cle loss	dfl_loss	Instances	Siz
е			_		_		
0:	297/300 100%		0.4547 30 [00:05<00		lit/s]	62	64
0	mAP50-95):		6/6		:00, 9.14it		mAP5
5	0.664	all	182	715	0.924	0.822	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz
0:	298/300 100%	2.92G 80/8	0.4612 30 [00:05<00	0.2766 9:00, 14.42	0.8467 2it/s]	61	64
0	mAP50-95):	Class	Images 6/6	Instances [00:00<00:	Box(P :00, 8.64i1	R t/s]	mAP5
6	0.665	all	182	715	0.925	0.821	0.88
е	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Siz

	299/300	2.92G	0.45	0.2704	0.8476	75	64
0:	100%	80/8	0 [00:05<00	9:00, 14.10i	lt/s]		
	-	Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:0	00, 9.60it/	s]	
		all	182	715	0.925	0.822	0.88
6	0.664						
	Epoch	GPU mem	box loss	cls loss	dfl loss	Instances	Siz
е	_p	o. oo	201_		u		
	300/300	2.92G	0.4466	0.2728	0.851	72	64
٥.		80/8		0.2728 9:00, 14.83i	0.00-	12	04
0:	100%			_	· -	R	mAP5
0		Class	Images	Instances	Box(P		IIIAPS
0	mAP50-95):	100%	0/0	[00:00<00:0	00, 8.88it/	S]	
		all	182	715	0.923	0.82	0.88
7	0.667						

300 epochs completed in 0.550 hours.

Optimizer stripped from vehicle-license-plate-detection \near-complete \impsz6 40 \weights \last.pt, 6.3 MB

Optimizer stripped from vehicle-license-plate-detection\near-complete\imgsz6 40\weights\best.pt, 6.3MB

Validating vehicle-license-plate-detection \near-complete \impsz 640 \weights \bestructure st.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

		Class	Images	Instances	Box(P	R	mAP5
0	mAP50-95):	100%	6/6	[00:00<00:00,	6.77it/s]		

4	0 677	all	182	715	0.955	0.798	0.89
4	0.677	carplate	181	259	0.975	0.784	0.88
6	0.568		100	45.0	0.024	0.010	0 00
2	0.787	vehicle	182	456	0.934	0.813	0.90
	0.1ms p	oreprocess, 0.6	ns inference	e, 0.0ms l	oss, 0.9ms	postprocess	per
image Result	s saved	to vehicle-lic e	ense-plate-c	letection\	near-comple	ete\imgsz640)
Ultral	ytics 8.	3.131 Python-3	•		•	_	
	Process	sor) (fused): 72 lay	vers, 3,006,	038 param	neters, 0 gr	adients, 8.	1 GFL
0Ps	,		, , ,	,	, 3	,	
PyToro	:h: start	ing from 'vehio	cle-license-	plate-det	ection\near	-complete\i	.mgsz6
	-	st.pt' with inpu	ıt shape (1,	3, 640,	640) BCHW a	and output s	hape
(S) (1	., 6, 846	00) (6.0 MB)					
	_	g export with or		pset 19			
	-	y with onnxslim success 0.8s, s		ehicle-lid	ense-plate-	detection\n	iear-c
omplet	e\imgsz6	640\weights\best	.onnx' (11.	7 MB)			
Export	complet	ce (0.9s)					
		to C:\Users\hei e\imgsz640\weigh	-	volo\vehic	le-license-	plate-detec	tion
Predic	•	yolo predict		ct model=v	vehicle-lice	ense-plate-d	letect
ion∖ne Valida		ete\imgsz640\we				n]o+o do+o	
		yolo val tas imgsz640\weigh>					
		etection\data.ya					
Visual	.ı∠e:	https://neti	on.app				

Save Model Architecture & Hyperparamaters used

```
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\impsz640\architecture\hyperparameters.json
- → Model architecture written to vehicle-license-plate-detection\near-complet e\imgsz640\architecture\model architecture.txt

Testing Dataset Evaluation

```
In [8]: if name == " main ":
            # 🔟 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
                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\imgsz640\weights\best.
      onnx for ONNX Runtime inference...
      Using ONNX Runtime CUDAExecutionProvider
      Setting batch=1 input of shape (1, 3, 640, 640)
      val: Fast image access (ping: 0.00.0 ms, read: 126.7140.8 MB/s, size: 563.3
      KB)
      val: Scanning C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-Plate-Dete
       ction\test\labels... 253 images, 0 backgrounds, 0 corrupt: 100%
      253/253 [00:00<00:00, 1039.78it/s]
      val: New cache created: C:\Users\herma\dev\IS\yolo\datasets\Vehicle-License-
      Plate-Detection\test\labels.cache
                                                                              mAP5
                                 Images Instances
                                                        Box(P
```

0 mAP50-95): 100% | 253/253 [00:02<00:00, 124.10it/s]

_		all	253	1494	0.926	0.692	0.8
3	0.633	carplate	251	512	0.954	0.645	0.81
1	0.555	•	252	002	0.000	0.720	0.04
9	0.712	vehicle	253	982	0.898	0.739	0.84

Speed: 0.2ms preprocess, 4.1ms inference, 0.0ms loss, 1.0ms postprocess per image

Saving vehicle-license-plate-detection\near-complete\imgsz640\evaluation\0.2 5\predictions.json...

Results saved to vehicle-license-plate-detection\near-complete\imgsz640\eval
uation\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\imgsz640\weights\best. onnx for ONNX Runtime inference...

Using ONNX Runtime CUDAExecutionProvider

Setting batch=1 input of shape (1, 3, 640, 640)

val: Fast image access (ping: 0.00.0 ms, read: 2310.41553.9 MB/s, size: 50
2.5 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<?, ?it/s] Class Images Instances Box(P R mAP5 0 mAP50-95): 100% | 253/253 [00:02<00:00, 121.28it/s] 0.81 all 253 1494 0.946 0.672 9 0.637 0.79 251 0.964 0.623 carplate 512 5 0.553 253 982 0.928 0.72 0.84 vehicle

3 0.722

Speed: 0.3ms preprocess, 4.3ms inference, 0.0ms loss, 1.0ms postprocess per image

Saving vehicle-license-plate-detection\near-complete\imgsz640\evaluation\0.5 0\predictions.json...

Results saved to vehicle-license-plate-detection\near-complete\imgsz640\eval
uation\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\imgsz640\weights\best. onnx for ONNX Runtime inference...

Using ONNX Runtime CUDAExecutionProvider

Setting batch=1 input of shape (1, 3, 640, 640)

val: Fast image access (ping: 0.00.0 ms, read: 2049.11555.8 MB/s, size: 36
9.1 KB)

		all	253	1494	0.975	0.584	0.78
1	0.628						
		carplate	251	512	0.975	0.537	0.75
5	0.538						
		vehicle	253	982	0.975	0.63	0.80
7	0.718						

Speed: 0.3ms preprocess, 4.2ms inference, 0.0ms loss, 1.0ms postprocess per image

Saving vehicle-license-plate-detection\near-complete\imgsz640\evaluation\0.7 5\predictions.json...

Results saved to vehicle-license-plate-detection\near-complete\imgsz640\eval
uation\0.75

Finished evaluation at conf=0.75

This notebook was converted with convert.ploomber.io