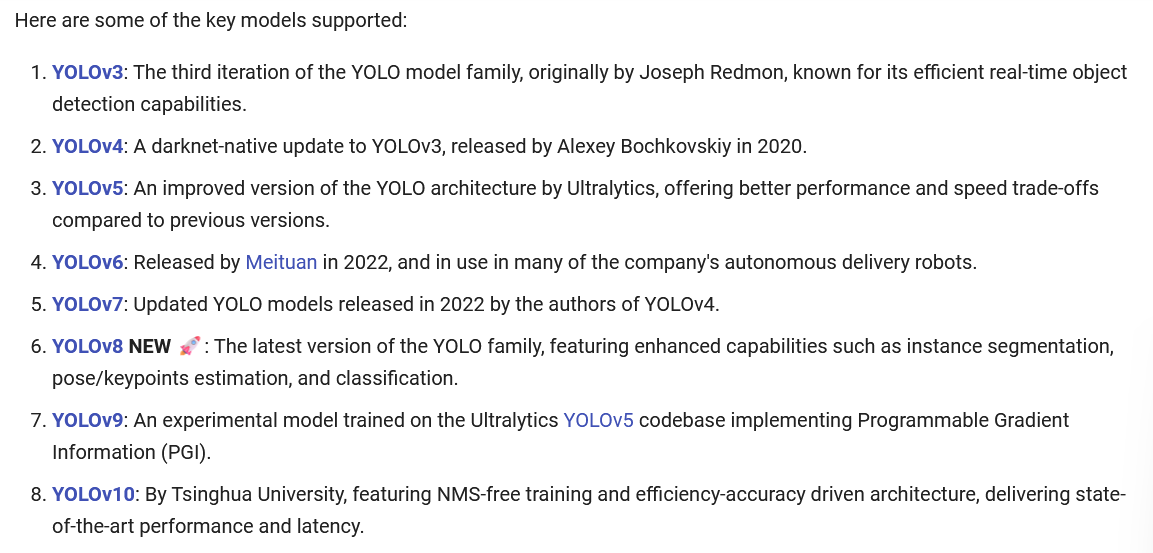
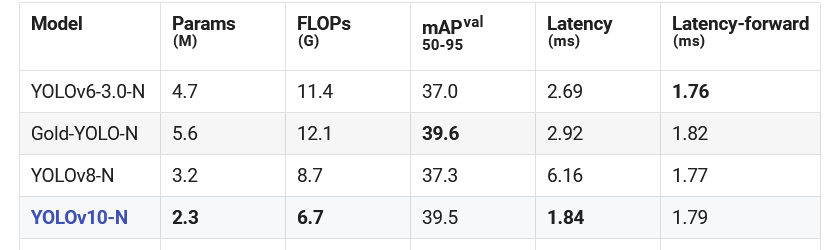
****

Source: <https://docs.ultralytics.com/models/#featured-models>



Yolo8 or yolo9 or yolo10

* YOLOv8 is a well-documented and widely tested model with proven real-world performance in tasks like vehicle detection
* smoother integration
* Customizable and Flexible

Yolo9 and 10 is under development and not fully functional

**Problem 1 Training Dataset ( CNG AND RIKSHAW)**

* **Existing Dataset is not good**

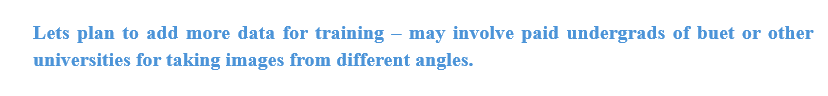
The Dataset is biased in respect to angle/ overhead view.

Dataset should have this variety

* Variety of objects (size, shape, orientation, etc.)
* Diverse backgrounds and lighting conditions
* Different scales and occlusions
  + Features (Visual Patterns):
  + Edges (object boundaries)
  + Textures (surface patterns)
* Key points (distinctive points like corners)
* Object Location in the Image:
* Occlusion and Overlap



**Solution 1:** Have to add more more overhead view ( not only 5 or 10 different place) and different angle. Which seems not feasible. Because there a a lot of angle/height, so many combination and diversity need to provided to the train dataset.



**Solution 2:** We have to compromise very much overhead views, instead follow general type of angle

**Problem 2 Objective/ Data Source**

Already there a lot of dataset of Bangladeshi vehicle( in Kragle and roboflow) and a lot of papers

Source: <https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=bangladesh+vehicle+dataset&btnG=>

Even in IEEE there a similar papers for Bangladeshi vehicle already exist before

<https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=bangladesh+vehicle+detection+paper+ieee&btnG=>

**Problem 3**

Everything we are doing, is already auto built feature by yolo8.

Vehicle Detection

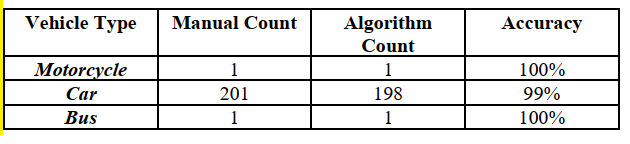
Vehicle Count

<https://docs.ultralytics.com/guides/object-counting/#advantages-of-object-counting>

3 m video

**Nayeem count**

|  |  |
| --- | --- |
| **My count** | **Accuracy** |
| **0** | **..** |
| **195** | **99%** |
| **1** | **100%** |



**My replica count**

Total objects crossed the line: 218 ---

Total objects of class 2 car crossed the line: 195

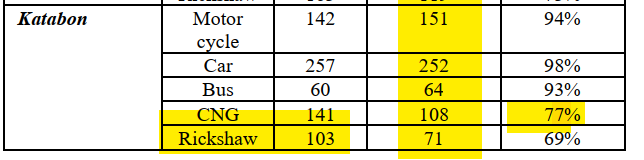
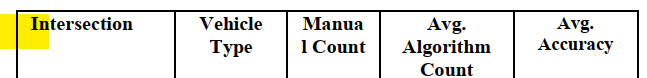
Total objects of class 7 truck crossed the line: 22

Total objects of class 5 bus crossed the line: 1

Motor cycle: 0

**After the train dataset**

|  |  |
| --- | --- |
| New Count | Accuracy |
| 130 | 91% |
| 245 | 95% |
| 58 | 96% |
| 162 | 76% |
| 8 | 7% |



**MY replica for katabon**

Total objects of class 0 cng crossed the line: 162

Total objects of class 1 rikshaw crossed the line: 8

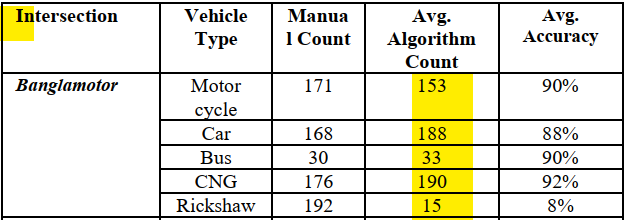
-----

Total objects of class 2 car crossed the line: 245

Total objects of class 3 motorcycle crossed the line: 130

Total objects of class 5 bus crossed the line: 58

|  |  |
| --- | --- |
| New Count | Accuracy |
| 130 | 76% |
| 153 | 91% |
| 35 | 85% |
| 129 | 73% |
| 9 | 5% |



**MY replica for Banglamotor**

Total objects of class 0 cng crossed the line: 129

Total objects of class 1 rikshaw crossed the line: 9

-----

Total objects of class 2 car crossed the line: 153

Total objects of class 3 motorcycle crossed the line: 130

Total objects of class 5 bus crossed the line: 35

**Architecture**

**Input Processing** :

The model resize the input image to a fixed size, with keeping the aspect ratio and dimension. This ensure the uniform input size.

**Backbone (Feature Extraction)**

YOLOv8 uses Convolutional Neural Network (CNN) as its backbone. The network use feature like edge,shape and other patterns for detecting object. This is done in a single pass, which is the core idea of YOLO “You Only Look Once”, Unlke other model. The model examines the image once to gather all the necessary information for detection, rather than scanning it multiple times as in older models​

**Neck**: ( Feature Agregation)

The extracted features are passed through this stage. This stage megre all of the feature and pattern from different layers.

**Head**: ( Prediction)

This stage is responsible for predicting bounding box, confidence score, and class probability for each grid cell in the image. It does this for the entire image in one go.

**Non-Maximum Suppression (NMS):**

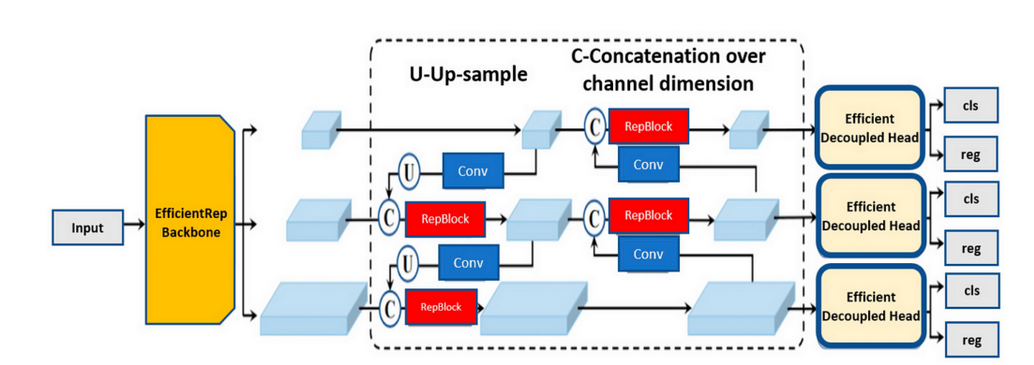
After the initial prediction overlapping box are filtered with keeping the highest confidence ration and removing the redundant boxes.

**Output**

Here the final output is generated with their corresponding classes, bounding box coordinate and confidence score.

Image Source:

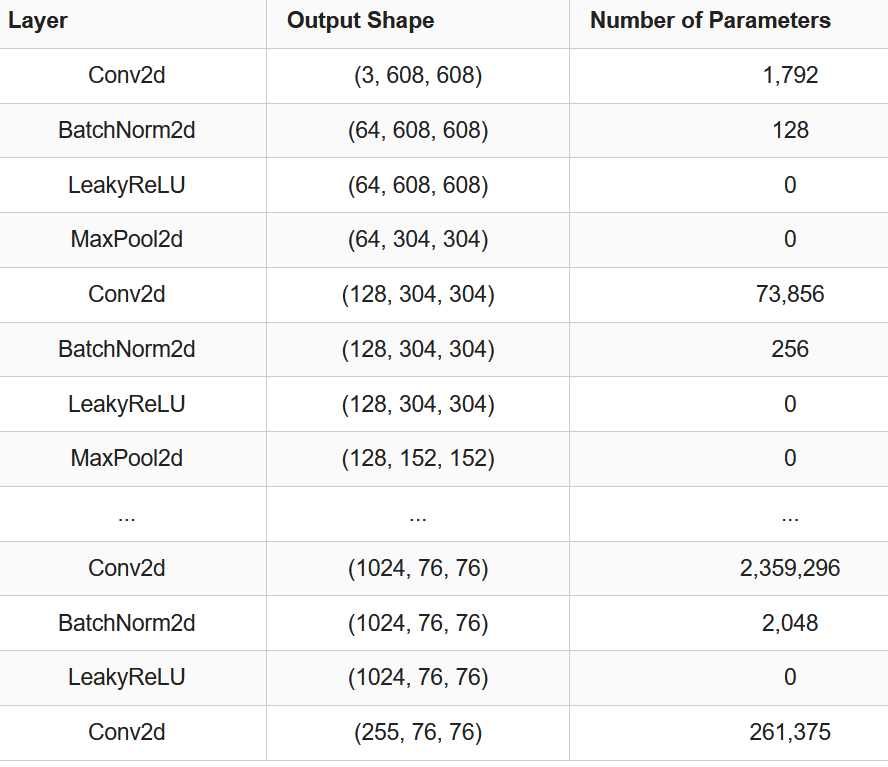
<https://www.folio3.ai/blog/what-is-yolov8-architecture/>



<https://keylabs.ai/blog/under-the-hood-yolov8-architecture-explained/>

**YOLO Architecture**

Image Source: <https://keylabs.ai/blog/under-the-hood-yolov8-architecture-explained/>



============================================

Yolo7 count match Nayeem

**Data collection planning**

OverBridge?

Builiding ?

Contact With Parvej?----

**Plan A\_\_\_**

1/ video from parvez and lebel by junior -------------------- 10 Location

**Plan B :**

**Overbridge**+ **Metro Station Bridge**

**Description Different Different Angle**

**Video with Moveable orientation / + static image**

High Rise Building from Different Location:

**1st day**

Nilkhet

TSC

ShahBag

Banglamotor

Karwan Bajar

**2nday**

Farmgate



Bijoy Sarani

Kajipara

Mirpur 10

**How to Hire junior-**

1/ Have good phone phone camera

2/ Stand - > Buy / from ARI / Junior kei manage korte hobe

3/ Where to select junior ?

BUET ? ---- --

**Plan C :**

Manage Camera from ARI

They give personnel

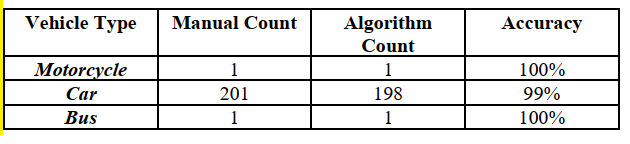
motorcycle/rikshaw

Yolo7 vs yolo8 ?

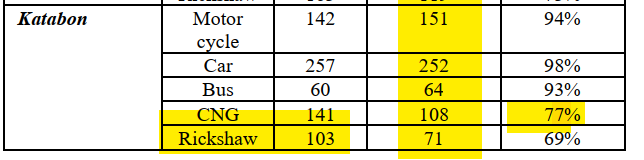
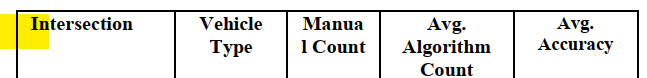
Yolov7 and yolov8 same logic = 8 onek fast

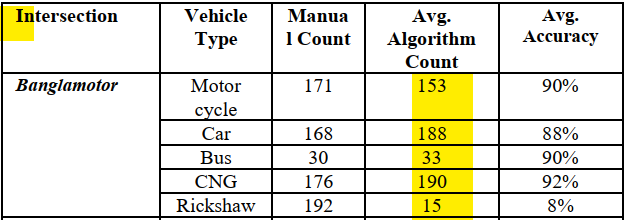
**Using yolo7 model**

**Nayeem count**



**My replica count**





|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | video duration | Cross Line | Frame No |  |
| KATABAN | | 30 minutes 24 seconds | (0,.68);(.6,.5) | 45612 | exp15 exp23 |
| BANGLA MOTOR | | 42 minutes 37 seconds | (.567,.265);(.767,.265) (.633,.147);(.767,.147) for Bus | 63936 | exp16 exp25 |

7 Oct 2024

Dataset

Previous

Sishumela – 15 s

Bonolota – 15s

Abul Hotel - 72

Jotimoy singha video

video\_folder = 'C:/Users/User/Downloads/YVIDEO/singho/Shahbagh To Banglamotor/training'  # Ensure this is correct

every 60s interval

300 image

video\_folder = 'C:/Users/User/Downloads/YVIDEO/singho/Kakrail to Mogbazar/Training'  # Ensure this is correct

every 60s

480 image

**7 oct 2024**

Processing with augmentation

#yolo detect train data=data.yaml model=yolo11n.pt epochs=100 imgsz=640 batch=8 device=0

I:\Git\Code-With-Nayeem\Train\_With\_GPU>yolo detect train data=data.yaml model=yolo11n.pt epochs=100 imgsz=640 batch=8 de

vice=0

New https://pypi.org/project/ultralytics/8.3.7 available 😃 Update with 'pip install -U ultralytics'

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

engine\trainer: task=detect, mode=train, model=yolo11n.pt, data=data.yaml, epochs=100, time=None, patience=100, batch=8, imgsz=640, save=True, save\_period=-1, cache=False, device=0, workers=8, project=None, name=train6, exist\_ok=False, pretrained=True, optimizer=auto, verbose=True, seed=0, deterministic=True, single\_cls=False, rect=False, cos\_lr=False, close\_mosaic=10, resume=False, amp=True, fraction=1.0, profile=False, freeze=None, multi\_scale=False, overlap\_mask=True, mask\_ratio=4, dropout=0.0, val=True, split=val, save\_json=False, save\_hybrid=False, conf=None, iou=0.7, max\_det=300, half=False, dnn=False, plots=True, source=None, vid\_stride=1, stream\_buffer=False, visualize=False, augment=False, agnostic\_nms=False, classes=None, retina\_masks=False, embed=None, show=False, save\_frames=False, save\_txt=False, save\_conf=False, save\_crop=False, show\_labels=True, show\_conf=True, show\_boxes=True, line\_width=None, format=torchscript, keras=False, optimize=False, int8=False, dynamic=False, simplify=True, opset=None, workspace=4, nms=False, lr0=0.01, lrf=0.01, momentum=0.937, weight\_decay=0.0005, warmup\_epochs=3.0, warmup\_momentum=0.8, warmup\_bias\_lr=0.1, box=7.5, cls=0.5, dfl=1.5, pose=12.0, kobj=1.0, label\_smoothing=0.0, nbs=64, hsv\_h=0.015, hsv\_s=0.7, hsv\_v=0.4, degrees=0.0, translate=0.1, scale=0.5, shear=0.0, perspective=0.0, flipud=0.0, fliplr=0.5, bgr=0.0, mosaic=1.0, mixup=0.0, copy\_paste=0.0, copy\_paste\_mode=flip, auto\_augment=randaugment, erasing=0.4, crop\_fraction=1.0, cfg=None, tracker=botsort.yaml, save\_dir=runs\detect\train6

Overriding model.yaml nc=80 with nc=2

from n params module arguments

0 -1 1 464 ultralytics.nn.modules.conv.Conv [3, 16, 3, 2]

1 -1 1 4672 ultralytics.nn.modules.conv.Conv [16, 32, 3, 2]

2 -1 1 6640 ultralytics.nn.modules.block.C3k2 [32, 64, 1, False, 0.25]

3 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

4 -1 1 26080 ultralytics.nn.modules.block.C3k2 [64, 128, 1, False, 0.25]

5 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

6 -1 1 87040 ultralytics.nn.modules.block.C3k2 [128, 128, 1, True]

7 -1 1 295424 ultralytics.nn.modules.conv.Conv [128, 256, 3, 2]

8 -1 1 346112 ultralytics.nn.modules.block.C3k2 [256, 256, 1, True]

9 -1 1 164608 ultralytics.nn.modules.block.SPPF [256, 256, 5]

10 -1 1 249728 ultralytics.nn.modules.block.C2PSA [256, 256, 1]

11 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

12 [-1, 6] 1 0 ultralytics.nn.modules.conv.Concat [1]

13 -1 1 111296 ultralytics.nn.modules.block.C3k2 [384, 128, 1, False]

14 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

15 [-1, 4] 1 0 ultralytics.nn.modules.conv.Concat [1]

16 -1 1 32096 ultralytics.nn.modules.block.C3k2 [256, 64, 1, False]

17 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

18 [-1, 13] 1 0 ultralytics.nn.modules.conv.Concat [1]

19 -1 1 86720 ultralytics.nn.modules.block.C3k2 [192, 128, 1, False]

20 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

21 [-1, 10] 1 0 ultralytics.nn.modules.conv.Concat [1]

22 -1 1 378880 ultralytics.nn.modules.block.C3k2 [384, 256, 1, True]

23 [16, 19, 22] 1 431062 ultralytics.nn.modules.head.Detect [2, [64, 128, 256]]

YOLO11n summary: 319 layers, 2,590,230 parameters, 2,590,214 gradients, 6.4 GFLOPs

Transferred 448/499 items from pretrained weights

TensorBoard: Start with 'tensorboard --logdir runs\detect\train6', view at http://localhost:6006/

Freezing layer 'model.23.dfl.conv.weight'

AMP: running Automatic Mixed Precision (AMP) checks with YOLO11n...

AMP: checks passed ✅

train: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\train\labels.cache... 3432 images, 642 backgrounds, 0 corrupt: 1

val: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\valid\labels.cache... 294 images, 53 backgrounds, 0 corrupt: 100%|

Plotting labels to runs\detect\train6\labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...

optimizer: AdamW(lr=0.001667, momentum=0.9) with parameter groups 81 weight(decay=0.0), 88 weight(decay=0.0005), 87 bias(decay=0.0)

TensorBoard: model graph visualization added ✅

Image sizes 640 train, 640 val

Using 8 dataloader workers

Logging results to runs\detect\train6

Starting training for 100 epochs...

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

1/100 1.43G 1.866 2.567 1.691 50 640: 100%|██████████| 429/429 [03:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.565 0.513 0.54 0.241

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

2/100 1.45G 1.868 1.947 1.695 44 640: 100%|██████████| 429/429 [03:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.629 0.566 0.626 0.293

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

3/100 1.44G 1.877 1.806 1.722 35 640: 100%|██████████| 429/429 [03:53<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:05

all 294 709 0.672 0.619 0.651 0.28

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

4/100 1.44G 1.86 1.691 1.699 33 640: 100%|██████████| 429/429 [03:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.684 0.641 0.708 0.33

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

5/100 1.44G 1.82 1.589 1.675 21 640: 100%|██████████| 429/429 [03:56<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.565 0.62 0.594 0.268

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

6/100 1.44G 1.788 1.528 1.658 41 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.758 0.706 0.784 0.375

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

7/100 1.46G 1.755 1.449 1.639 36 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.728 0.747 0.75 0.359

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

8/100 1.44G 1.761 1.402 1.626 28 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.708 0.762 0.78 0.378

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

9/100 1.44G 1.735 1.35 1.613 53 640: 100%|██████████| 429/429 [03:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.718 0.787 0.785 0.38

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

10/100 1.44G 1.706 1.321 1.596 41 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.764 0.775 0.807 0.398

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

11/100 1.44G 1.699 1.297 1.595 46 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.729 0.767 0.79 0.389

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

12/100 1.44G 1.688 1.235 1.563 37 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.77 0.778 0.827 0.412

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

13/100 1.44G 1.671 1.24 1.557 16 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.762 0.788 0.813 0.404

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

14/100 1.44G 1.662 1.213 1.55 13 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.758 0.775 0.813 0.404

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

15/100 1.44G 1.664 1.214 1.547 44 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.758 0.793 0.819 0.415

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

16/100 1.44G 1.629 1.163 1.531 26 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.772 0.82 0.839 0.438

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

17/100 1.44G 1.64 1.179 1.537 27 640: 100%|██████████| 429/429 [04:27<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:12

all 294 709 0.782 0.773 0.831 0.429

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

18/100 1.44G 1.628 1.151 1.524 22 640: 100%|██████████| 429/429 [03:53<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.797 0.807 0.843 0.43

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

19/100 1.45G 1.609 1.131 1.514 16 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.782 0.811 0.84 0.438

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

20/100 1.44G 1.607 1.136 1.518 56 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.786 0.764 0.807 0.401

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

21/100 1.46G 1.597 1.109 1.497 39 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.794 0.819 0.86 0.438

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

22/100 1.44G 1.588 1.11 1.502 10 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.779 0.834 0.862 0.444

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

23/100 1.44G 1.578 1.088 1.488 33 640: 100%|██████████| 429/429 [03:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.777 0.835 0.861 0.445

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

24/100 1.44G 1.568 1.072 1.477 47 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.797 0.819 0.837 0.44

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

25/100 1.44G 1.553 1.052 1.469 41 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.805 0.825 0.85 0.428

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

26/100 1.44G 1.552 1.07 1.476 23 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.808 0.827 0.866 0.455

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

27/100 1.44G 1.545 1.029 1.466 21 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.809 0.85 0.877 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

28/100 1.46G 1.543 1.011 1.456 58 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.816 0.822 0.868 0.458

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

29/100 1.44G 1.536 1.014 1.45 13 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.793 0.855 0.873 0.457

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

30/100 1.44G 1.536 1.011 1.448 45 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.808 0.812 0.863 0.454

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

31/100 1.44G 1.512 1.002 1.442 31 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.821 0.83 0.868 0.447

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

32/100 1.44G 1.506 0.9778 1.424 40 640: 100%|██████████| 429/429 [03:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.779 0.841 0.867 0.447

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

33/100 1.45G 1.512 0.9747 1.437 45 640: 100%|██████████| 429/429 [07:15<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.824 0.823 0.874 0.462

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

34/100 1.46G 1.488 0.9747 1.42 23 640: 100%|██████████| 429/429 [13:06<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:22

all 294 709 0.865 0.814 0.877 0.461

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

35/100 1.44G 1.49 0.963 1.42 34 640: 100%|██████████| 429/429 [14:42<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:18

all 294 709 0.867 0.811 0.881 0.481

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

36/100 1.46G 1.489 0.9511 1.418 47 640: 100%|██████████| 429/429 [13:59<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:21

all 294 709 0.802 0.856 0.882 0.486

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

37/100 1.44G 1.48 0.9419 1.41 35 640: 100%|██████████| 429/429 [14:23<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:18

all 294 709 0.832 0.852 0.875 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

38/100 1.44G 1.471 0.9571 1.409 27 640: 100%|██████████| 429/429 [14:16<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:19

all 294 709 0.836 0.849 0.889 0.474

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

39/100 1.44G 1.473 0.9312 1.394 20 640: 100%|██████████| 429/429 [13:24<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:22

all 294 709 0.812 0.839 0.871 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

40/100 1.44G 1.47 0.9357 1.395 24 640: 100%|██████████| 429/429 [12:11<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:22

all 294 709 0.841 0.836 0.882 0.477

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

41/100 1.44G 1.45 0.9298 1.395 20 640: 100%|██████████| 429/429 [13:13<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:18

all 294 709 0.812 0.834 0.877 0.469

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

42/100 1.44G 1.457 0.936 1.398 28 640: 100%|██████████| 429/429 [13:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:22

all 294 709 0.812 0.851 0.88 0.476

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

43/100 1.44G 1.443 0.9192 1.389 46 640: 100%|██████████| 429/429 [12:19<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:21

all 294 709 0.847 0.821 0.887 0.474

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

44/100 1.46G 1.447 0.9035 1.385 23 640: 100%|██████████| 429/429 [13:04<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:16

all 294 709 0.837 0.845 0.885 0.478

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

45/100 1.44G 1.434 0.8882 1.374 24 640: 100%|██████████| 429/429 [13:38<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:19

all 294 709 0.859 0.82 0.878 0.479

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

46/100 1.44G 1.424 0.9022 1.37 21 640: 100%|██████████| 429/429 [13:58<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:19

all 294 709 0.839 0.83 0.882 0.483

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

47/100 1.44G 1.414 0.8879 1.374 26 640: 100%|██████████| 429/429 [14:10<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:21

all 294 709 0.818 0.848 0.88 0.473

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

48/100 1.44G 1.396 0.8857 1.357 16 640: 100%|██████████| 429/429 [13:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.822 0.84 0.881 0.472

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

49/100 1.44G 1.411 0.8812 1.36 42 640: 100%|██████████| 429/429 [13:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.855 0.831 0.897 0.481

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

50/100 1.44G 1.398 0.8671 1.357 23 640: 100%|██████████| 429/429 [14:26<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:18

all 294 709 0.836 0.843 0.888 0.481

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

51/100 1.44G 1.393 0.8684 1.357 73 640: 100%|██████████| 429/429 [13:29<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:25

all 294 709 0.822 0.867 0.884 0.475

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

52/100 1.44G 1.377 0.8503 1.343 46 640: 100%|██████████| 429/429 [14:38<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:19

all 294 709 0.833 0.85 0.885 0.483

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

53/100 1.45G 1.381 0.8618 1.357 53 640: 100%|██████████| 429/429 [14:36<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.837 0.848 0.888 0.48

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

54/100 1.44G 1.37 0.8371 1.326 18 640: 100%|██████████| 429/429 [15:57<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:22

all 294 709 0.848 0.837 0.886 0.487

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

55/100 1.44G 1.373 0.8449 1.342 23 640: 100%|██████████| 429/429 [08:07<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.834 0.83 0.885 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

56/100 1.44G 1.354 0.8212 1.319 16 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.837 0.834 0.881 0.474

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

57/100 1.44G 1.364 0.8312 1.327 73 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.842 0.845 0.881 0.481

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

58/100 1.46G 1.339 0.8203 1.325 20 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.83 0.839 0.881 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

59/100 1.44G 1.338 0.8155 1.309 24 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.832 0.866 0.884 0.493

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

60/100 1.44G 1.335 0.8118 1.311 28 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.809 0.882 0.887 0.491

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

61/100 1.44G 1.322 0.8063 1.305 61 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.837 0.847 0.893 0.487

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

62/100 1.44G 1.322 0.7974 1.297 40 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.808 0.856 0.876 0.486

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

63/100 1.44G 1.323 0.8039 1.299 20 640: 100%|██████████| 429/429 [11:23<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.823 0.849 0.892 0.489

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

64/100 1.44G 1.311 0.7824 1.301 7 640: 100%|██████████| 429/429 [16:09<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:21

all 294 709 0.824 0.87 0.891 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

65/100 1.44G 1.306 0.7887 1.291 22 640: 100%|██████████| 429/429 [16:22<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:22

all 294 709 0.83 0.848 0.886 0.48

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

66/100 1.44G 1.301 0.7792 1.279 11 640: 100%|██████████| 429/429 [15:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:19

all 294 709 0.82 0.845 0.872 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

67/100 1.45G 1.282 0.7657 1.273 26 640: 100%|██████████| 429/429 [14:06<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:19

all 294 709 0.84 0.859 0.883 0.485

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

68/100 1.44G 1.298 0.7847 1.286 17 640: 100%|██████████| 429/429 [15:04<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.834 0.848 0.888 0.489

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

69/100 1.44G 1.279 0.7636 1.274 22 640: 100%|██████████| 429/429 [14:24<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:24

all 294 709 0.837 0.85 0.897 0.494

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

70/100 1.44G 1.279 0.778 1.27 30 640: 100%|██████████| 429/429 [14:14<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:23

all 294 709 0.848 0.854 0.89 0.489

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

71/100 1.46G 1.264 0.7508 1.266 34 640: 100%|██████████| 429/429 [16:53<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:21

all 294 709 0.843 0.85 0.899 0.488

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

72/100 1.44G 1.268 0.7522 1.264 21 640: 100%|██████████| 429/429 [15:28<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:20

all 294 709 0.855 0.838 0.899 0.489

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

73/100 1.44G 1.261 0.7443 1.257 73 640: 100%|██████████| 429/429 [05:58<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.833 0.86 0.899 0.494

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

74/100 1.44G 1.248 0.7519 1.253 33 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.853 0.84 0.904 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

75/100 1.44G 1.244 0.7383 1.251 92 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.863 0.846 0.892 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

76/100 1.44G 1.234 0.7356 1.252 21 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.854 0.851 0.895 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

77/100 1.44G 1.242 0.7352 1.25 20 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.858 0.845 0.892 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

78/100 1.44G 1.221 0.7246 1.244 31 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.885 0.836 0.902 0.491

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

79/100 1.44G 1.226 0.7223 1.242 16 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.876 0.84 0.898 0.487

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

80/100 1.44G 1.225 0.7286 1.245 34 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.837 0.844 0.892 0.487

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

81/100 1.44G 1.21 0.7073 1.232 17 640: 100%|██████████| 429/429 [03:59<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.864 0.833 0.894 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

82/100 1.44G 1.207 0.7156 1.23 24 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.854 0.827 0.895 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

83/100 1.44G 1.202 0.7069 1.221 24 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.882 0.819 0.897 0.487

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

84/100 1.44G 1.197 0.7051 1.218 46 640: 100%|██████████| 429/429 [03:56<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.862 0.832 0.897 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

85/100 1.44G 1.184 0.7089 1.218 51 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.869 0.826 0.896 0.489

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

86/100 1.44G 1.19 0.7018 1.218 25 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.884 0.823 0.905 0.488

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

87/100 1.44G 1.184 0.695 1.207 35 640: 100%|██████████| 429/429 [03:57<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.849 0.847 0.903 0.492

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

88/100 1.44G 1.181 0.6999 1.207 27 640: 100%|██████████| 429/429 [03:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.849 0.855 0.901 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

89/100 1.44G 1.17 0.6892 1.206 31 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.844 0.853 0.902 0.491

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

90/100 1.44G 1.166 0.6867 1.204 17 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.852 0.846 0.9 0.49

Closing dataloader mosaic

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

91/100 1.46G 1.144 0.6137 1.2 10 640: 100%|██████████| 429/429 [03:34<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:05

all 294 709 0.857 0.839 0.898 0.481

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

92/100 1.44G 1.147 0.603 1.195 32 640: 100%|██████████| 429/429 [03:46<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.855 0.844 0.895 0.481

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

93/100 1.44G 1.128 0.5901 1.186 14 640: 100%|██████████| 429/429 [03:54<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.873 0.827 0.896 0.485

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

94/100 1.46G 1.114 0.58 1.177 13 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.885 0.817 0.898 0.485

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

95/100 1.44G 1.123 0.5855 1.178 33 640: 100%|██████████| 429/429 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.859 0.838 0.898 0.488

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

96/100 1.44G 1.098 0.5754 1.17 15 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.871 0.841 0.898 0.486

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

97/100 1.44G 1.103 0.5868 1.176 12 640: 100%|██████████| 429/429 [03:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06

all 294 709 0.88 0.834 0.904 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

98/100 1.46G 1.084 0.5692 1.156 10 640: 100%|██████████| 429/429 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06<00:00, 2.99it/s]

all 294 709 0.878 0.826 0.898 0.492

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

99/100 1.44G 1.074 0.5646 1.147 9 640: 100%|██████████| 429/429 [03:51<00:00, 1.85it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06<00:00, 2.99it/s]

all 294 709 0.872 0.841 0.9 0.489

**Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size**

**100/100 1.44G 1.076 0.5562 1.155 20 640: 100%|██████████| 429/429 [03:50<00:00, 1.86it/s]**

**Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06<00:00, 2.98it/s]**

**all 294 709 0.883 0.828 0.901 0.493**

100 epochs completed in 12.292 hours.

Optimizer stripped from runs\detect\train6\weights\last.pt, 5.5MB

Optimizer stripped from runs\detect\train6\weights\best.pt, 5.5MB

Validating runs\detect\train6\weights\best.pt...

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

YOLO11n summary (fused): 238 layers, 2,582,542 parameters, 0 gradients, 6.3 GFLOPs

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 19/19 [00:06<00:00, 2.83it/s]

all 294 709 0.837 0.852 0.897 0.494

cng 179 405 0.883 0.916 0.951 0.563

rikshaw 115 304 0.792 0.788 0.844 0.425

Speed: 0.8ms preprocess, 13.1ms inference, 0.0ms loss, 1.9ms postprocess per image

Results saved to runs\detect\train6

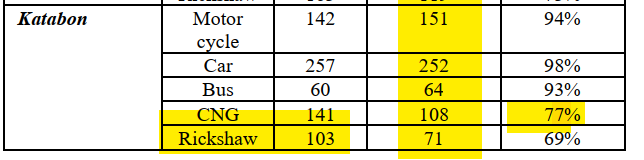
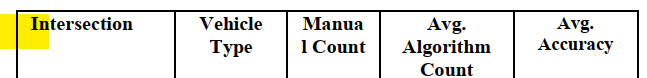
💡 Learn more at https://docs.ultralytics.com/modes/train

Katabon

Previous data

**After the train dataset**

|  |  |
| --- | --- |
| New Count | Accuracy |
| 130 | 91% |
| 245 | 95% |
| 58 | 96% |
| 162 | 76% |
| 8 | 7% |



New

LINE\_START: (9, 509)

LINE\_END: (1050, 350)

Starting processing...

Error: Could not read frame.

Processing complete.

Total objects crossed the line: 221

**Total objects of class 0 cng crossed the line: 137**

**Total objects of class 1 rikshaw crossed the line: 84**

Vtid1.mp4

Using newtrack4\_gpu\_with\_multipleclass\_count.py

#fine tunning at 3.44AM 9 oct 2024

#yolo detect train data=data.yaml model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train6/weights/best.pt epochs=10 imgsz=640 batch=8 device=0

I:\Git\Code-With-Nayeem\Train\_With\_GPU>yolo detect train data=data.yaml model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train6/weights/best.pt epochs=10 imgsz=640 batch=8 device=0

New https://pypi.org/project/ultralytics/8.3.8 available 😃 Update with 'pip install -U ultralytics'

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

engine\trainer: task=detect, mode=train, model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train6/weights/best.pt, data=data.yaml, epochs=10, time=None, patience=100, batch=8, imgsz=640, save=True, save\_period=-1, cache=False, device=0, workers=8, project=None, name=train8, exist\_ok=False, pretrained=True, optimizer=auto, verbose=True, seed=0, deterministic=True, single\_cls=False, rect=False, cos\_lr=False, close\_mosaic=10, resume=False, amp=True, fraction=1.0, profile=False, freeze=None, multi\_scale=False, overlap\_mask=True, mask\_ratio=4, dropout=0.0, val=True, split=val, save\_json=False, save\_hybrid=False, conf=None, iou=0.7, max\_det=300, half=False, dnn=False, plots=True, source=None, vid\_stride=1, stream\_buffer=False, visualize=False, augment=False, agnostic\_nms=False, classes=None, retina\_masks=False, embed=None, show=False, save\_frames=False, save\_txt=False, save\_conf=False, save\_crop=False, show\_labels=True, show\_conf=True, show\_boxes=True, line\_width=None, format=torchscript, keras=False, optimize=False, int8=False, dynamic=False, simplify=True, opset=None, workspace=4, nms=False, lr0=0.01, lrf=0.01, momentum=0.937, weight\_decay=0.0005, warmup\_epochs=3.0, warmup\_momentum=0.8, warmup\_bias\_lr=0.1, box=7.5, cls=0.5, dfl=1.5, pose=12.0, kobj=1.0, label\_smoothing=0.0, nbs=64, hsv\_h=0.015, hsv\_s=0.7, hsv\_v=0.4, degrees=0.0, translate=0.1, scale=0.5, shear=0.0, perspective=0.0, flipud=0.0, fliplr=0.5, bgr=0.0, mosaic=1.0, mixup=0.0, copy\_paste=0.0, copy\_paste\_mode=flip, auto\_augment=randaugment, erasing=0.4, crop\_fraction=1.0, cfg=None, tracker=botsort.yaml, save\_dir=runs\detect\train8

from n params module arguments

0 -1 1 464 ultralytics.nn.modules.conv.Conv [3, 16, 3, 2]

1 -1 1 4672 ultralytics.nn.modules.conv.Conv [16, 32, 3, 2]

2 -1 1 6640 ultralytics.nn.modules.block.C3k2 [32, 64, 1, False, 0.25]

3 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

4 -1 1 26080 ultralytics.nn.modules.block.C3k2 [64, 128, 1, False, 0.25]

5 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

6 -1 1 87040 ultralytics.nn.modules.block.C3k2 [128, 128, 1, True]

7 -1 1 295424 ultralytics.nn.modules.conv.Conv [128, 256, 3, 2]

8 -1 1 346112 ultralytics.nn.modules.block.C3k2 [256, 256, 1, True]

9 -1 1 164608 ultralytics.nn.modules.block.SPPF [256, 256, 5]

10 -1 1 249728 ultralytics.nn.modules.block.C2PSA [256, 256, 1]

11 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

12 [-1, 6] 1 0 ultralytics.nn.modules.conv.Concat [1]

13 -1 1 111296 ultralytics.nn.modules.block.C3k2 [384, 128, 1, False]

14 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

15 [-1, 4] 1 0 ultralytics.nn.modules.conv.Concat [1]

16 -1 1 32096 ultralytics.nn.modules.block.C3k2 [256, 64, 1, False]

17 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

18 [-1, 13] 1 0 ultralytics.nn.modules.conv.Concat [1]

19 -1 1 86720 ultralytics.nn.modules.block.C3k2 [192, 128, 1, False]

20 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

21 [-1, 10] 1 0 ultralytics.nn.modules.conv.Concat [1]

22 -1 1 378880 ultralytics.nn.modules.block.C3k2 [384, 256, 1, True]

23 [16, 19, 22] 1 431062 ultralytics.nn.modules.head.Detect [2, [64, 128, 256]]

YOLO11n summary: 319 layers, 2,590,230 parameters, 2,590,214 gradients, 6.4 GFLOPs

Transferred 499/499 items from pretrained weights

TensorBoard: Start with 'tensorboard --logdir runs\detect\train8', view at http://localhost:6006/

Freezing layer 'model.23.dfl.conv.weight'

AMP: running Automatic Mixed Precision (AMP) checks with YOLO11n...

AMP: checks passed ✅

train: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\train\labels.cache... 3160 images, 546 backgrounds, 0 corrupt: 1

val: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\valid\labels.cache... 312 images, 53 backgrounds, 0 corrupt: 100%|

Plotting labels to runs\detect\train8\labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...

optimizer: AdamW(lr=0.001667, momentum=0.9) with parameter groups 81 weight(decay=0.0), 88 weight(decay=0.0005), 87 bias(decay=0.0)

TensorBoard: model graph visualization added ✅

Image sizes 640 train, 640 val

Using 8 dataloader workers

Logging results to runs\detect\train8

Starting training for 10 epochs...

Closing dataloader mosaic

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

1/10 1.45G 1.486 0.8443 1.361 29 640: 100%|██████████| 395/395 [03:26<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:06

all 312 941 0.82 0.77 0.847 0.442

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

2/10 1.44G 1.494 0.8349 1.37 18 640: 100%|██████████| 395/395 [03:45<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:07

all 312 941 0.774 0.798 0.834 0.431

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

3/10 1.44G 1.509 0.8501 1.384 9 640: 100%|██████████| 395/395 [03:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:08

all 312 941 0.805 0.798 0.847 0.438

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

4/10 1.44G 1.5 0.8307 1.381 49 640: 100%|██████████| 395/395 [03:39<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:08

all 312 941 0.774 0.807 0.827 0.432

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

5/10 1.44G 1.489 0.8173 1.364 38 640: 100%|██████████| 395/395 [03:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:08

all 312 941 0.798 0.825 0.856 0.445

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

6/10 1.44G 1.443 0.7891 1.333 39 640: 100%|██████████| 395/395 [03:32<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:06

all 312 941 0.792 0.818 0.848 0.446

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

7/10 1.44G 1.414 0.7713 1.316 10 640: 100%|██████████| 395/395 [03:33<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:06

all 312 941 0.805 0.84 0.864 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

8/10 1.44G 1.366 0.7324 1.282 19 640: 100%|██████████| 395/395 [03:32<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:08

all 312 941 0.846 0.818 0.869 0.471

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

9/10 1.44G 1.337 0.7096 1.258 17 640: 100%|██████████| 395/395 [03:38<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:06

all 312 941 0.84 0.814 0.864 0.463

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

10/10 1.44G 1.306 0.6891 1.244 15 640: 100%|██████████| 395/395 [03:31<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:06

all 312 941 0.809 0.842 0.869 0.469

10 epochs completed in 0.632 hours.

Optimizer stripped from runs\detect\train8\weights\last.pt, 5.5MB

Optimizer stripped from runs\detect\train8\weights\best.pt, 5.5MB

Validating runs\detect\train8\weights\best.pt...

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

YOLO11n summary (fused): 238 layers, 2,582,542 parameters, 0 gradients, 6.3 GFLOPs

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 20/20 [00:07

all 312 941 0.847 0.818 0.869 0.471

cng 197 498 0.881 0.908 0.935 0.534

rikshaw 133 443 0.812 0.729 0.803 0.408

Speed: 0.8ms preprocess, 13.4ms inference, 0.0ms loss, 2.1ms postprocess per image

Results saved to runs\detect\train8

💡 Learn more at https://docs.ultralytics.com/modes/train

I:\Git\Code-With-Nayeem\Train\_With\_GPU>

I:\Git\Code-With-Nayeem\Train\_With\_GPU>yolo detect train data=data.yaml model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train8/weights/best.pt epochs=10 imgsz=640 batch=12 device=0

I:\Git\Code-With-Nayeem\Train\_With\_GPU>yolo detect train data=data.yaml model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train8/weights/best.pt epochs=10 imgsz=640 batch=12 device=0

New https://pypi.org/project/ultralytics/8.3.8 available 😃 Update with 'pip install -U ultralytics'

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

engine\trainer: task=detect, mode=train, model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train8/weights/best.pt, data=data.yaml, epochs=10, time=None, patience=100, batch=12, imgsz=640, save=True, save\_period=-1, cache=False, device=0, workers=8, project=None, name=train9, exist\_ok=False, pretrained=True, optimizer=auto, verbose=True, seed=0, deterministic=True, single\_cls=False, rect=False, cos\_lr=False, close\_mosaic=10, resume=False, amp=True, fraction=1.0, profile=False, freeze=None, multi\_scale=False, overlap\_mask=True, mask\_ratio=4, dropout=0.0, val=True, split=val, save\_json=False, save\_hybrid=False, conf=None, iou=0.7, max\_det=300, half=False, dnn=False, plots=True, source=None, vid\_stride=1, stream\_buffer=False, visualize=False, augment=False, agnostic\_nms=False, classes=None, retina\_masks=False, embed=None, show=False, save\_frames=False, save\_txt=False, save\_conf=False, save\_crop=False, show\_labels=True, show\_conf=True, show\_boxes=True, line\_width=None, format=torchscript, keras=False, optimize=False, int8=False, dynamic=False, simplify=True, opset=None, workspace=4, nms=False, lr0=0.01, lrf=0.01, momentum=0.937, weight\_decay=0.0005, warmup\_epochs=3.0, warmup\_momentum=0.8, warmup\_bias\_lr=0.1, box=7.5, cls=0.5, dfl=1.5, pose=12.0, kobj=1.0, label\_smoothing=0.0, nbs=64, hsv\_h=0.015, hsv\_s=0.7, hsv\_v=0.4, degrees=0.0, translate=0.1, scale=0.5, shear=0.0, perspective=0.0, flipud=0.0, fliplr=0.5, bgr=0.0, mosaic=1.0, mixup=0.0, copy\_paste=0.0, copy\_paste\_mode=flip, auto\_augment=randaugment, erasing=0.4, crop\_fraction=1.0, cfg=None, tracker=botsort.yaml, save\_dir=runs\detect\train9

from n params module arguments

0 -1 1 464 ultralytics.nn.modules.conv.Conv [3, 16, 3, 2]

1 -1 1 4672 ultralytics.nn.modules.conv.Conv [16, 32, 3, 2]

2 -1 1 6640 ultralytics.nn.modules.block.C3k2 [32, 64, 1, False, 0.25]

3 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

4 -1 1 26080 ultralytics.nn.modules.block.C3k2 [64, 128, 1, False, 0.25]

5 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

6 -1 1 87040 ultralytics.nn.modules.block.C3k2 [128, 128, 1, True]

7 -1 1 295424 ultralytics.nn.modules.conv.Conv [128, 256, 3, 2]

8 -1 1 346112 ultralytics.nn.modules.block.C3k2 [256, 256, 1, True]

9 -1 1 164608 ultralytics.nn.modules.block.SPPF [256, 256, 5]

10 -1 1 249728 ultralytics.nn.modules.block.C2PSA [256, 256, 1]

11 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

12 [-1, 6] 1 0 ultralytics.nn.modules.conv.Concat [1]

13 -1 1 111296 ultralytics.nn.modules.block.C3k2 [384, 128, 1, False]

14 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

15 [-1, 4] 1 0 ultralytics.nn.modules.conv.Concat [1]

16 -1 1 32096 ultralytics.nn.modules.block.C3k2 [256, 64, 1, False]

17 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

18 [-1, 13] 1 0 ultralytics.nn.modules.conv.Concat [1]

19 -1 1 86720 ultralytics.nn.modules.block.C3k2 [192, 128, 1, False]

20 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

21 [-1, 10] 1 0 ultralytics.nn.modules.conv.Concat [1]

22 -1 1 378880 ultralytics.nn.modules.block.C3k2 [384, 256, 1, True]

23 [16, 19, 22] 1 431062 ultralytics.nn.modules.head.Detect [2, [64, 128, 256]]

YOLO11n summary: 319 layers, 2,590,230 parameters, 2,590,214 gradients, 6.4 GFLOPs

Transferred 499/499 items from pretrained weights

TensorBoard: Start with 'tensorboard --logdir runs\detect\train9', view at http://localhost:6006/

Freezing layer 'model.23.dfl.conv.weight'

AMP: running Automatic Mixed Precision (AMP) checks with YOLO11n...

AMP: checks passed ✅

train: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\train\labels.cache... 3160 images, 546 backgrounds, 0 corrupt: 1

val: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\valid\labels.cache... 312 images, 53 backgrounds, 0 corrupt: 100%|

Plotting labels to runs\detect\train9\labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...

optimizer: AdamW(lr=0.001667, momentum=0.9) with parameter groups 81 weight(decay=0.0), 88 weight(decay=0.00046875), 87 bias(decay=0.0)

TensorBoard: model graph visualization added ✅

Image sizes 640 train, 640 val

Using 8 dataloader workers

Logging results to runs\detect\train9

Starting training for 10 epochs...

Closing dataloader mosaic

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

1/10 1.95G 1.359 0.7189 1.264 13 640: 100%|██████████| 264/264 [03:45<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:15

all 312 941 0.834 0.818 0.878 0.471

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

2/10 1.96G 1.394 0.75 1.293 8 640: 100%|██████████| 264/264 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.822 0.813 0.862 0.46

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

3/10 1.95G 1.409 0.773 1.312 5 640: 100%|██████████| 264/264 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.823 0.817 0.865 0.458

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

4/10 1.95G 1.427 0.77 1.317 32 640: 100%|██████████| 264/264 [03:58<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.822 0.81 0.867 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

5/10 1.94G 1.406 0.759 1.305 11 640: 100%|██████████| 264/264 [04:09<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.817 0.84 0.869 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

6/10 1.94G 1.375 0.7387 1.28 9 640: 100%|██████████| 264/264 [03:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:19

all 312 941 0.806 0.853 0.872 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

7/10 1.93G 1.363 0.7164 1.277 6 640: 100%|██████████| 264/264 [04:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.845 0.84 0.884 0.474

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

8/10 1.93G 1.315 0.6935 1.243 16 640: 100%|██████████| 264/264 [03:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:10

all 312 941 0.839 0.839 0.883 0.478

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

9/10 1.95G 1.305 0.6884 1.235 13 640: 100%|██████████| 264/264 [03:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:15

all 312 941 0.843 0.839 0.885 0.482

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

10/10 1.95G 1.266 0.6623 1.216 5 640: 100%|██████████| 264/264 [03:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:15

all 312 941 0.858 0.833 0.89 0.487

10 epochs completed in 0.721 hours.

Optimizer stripped from runs\detect\train9\weights\last.pt, 5.5MB

Optimizer stripped from runs\detect\train9\weights\best.pt, 5.5MB

Validating runs\detect\train9\weights\best.pt...

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

YOLO11n summary (fused): 238 layers, 2,582,542 parameters, 0 gradients, 6.3 GFLOPs

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:08

all 312 941 0.857 0.833 0.89 0.487

cng 197 498 0.889 0.914 0.946 0.553

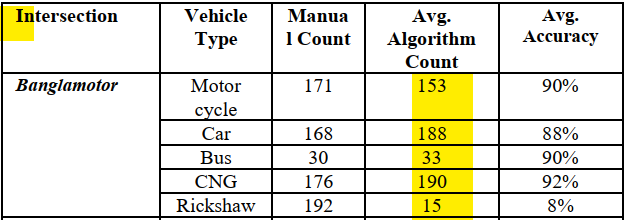
rikshaw 133 443 0.825 0.752 0.834 0.42

Speed: 0.8ms preprocess, 19.8ms inference, 0.0ms loss, 1.6ms postprocess per image

Results saved to runs\detect\train9

💡 Learn more at https://docs.ultralytics.com/modes/train

|  |  |
| --- | --- |
| New Count | Accuracy |
| 130 | 76% |
| 153 | 91% |
| 35 | 85% |
| 129 | 73% |
| 9 | 5% |



vtid2\_bm.mp4

**run with train9 best.pt**

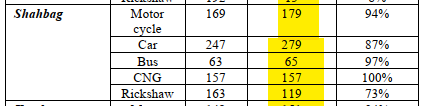
LINE\_START: (758, 179)

LINE\_END: (972, 209)

Total objects of class 0 cng crossed the line: 147

Total objects of class 1 rikshaw crossed the line: 27





LINE\_START: (68, 515)

LINE\_END: (798, 535)

Processing complete.

Total objects of class 0 cng crossed the line: 141

Total objects of class 1 rikshaw crossed the line: 104

***Report***

**Katabon**

Run With train9 best.pt v4 **Yolo v11**  
katabon\_\_tbsjd.mp4  
Run With yolo11n.pt v4   
LINE\_START**:** (9, 509)  
LINE\_END: (1050, 350)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 151 (overcount) | 94% | 142 | 132 | 93% |
| Car | 252 | 98% | 257 | 335  (overcount) | 76% |
| Bus | 64 (overcount) | 93% | 60 | 83  (Overcount)  Reason: Some truckvan are counted as bus!!! | 72% |
| CNG | 108 | 77% | 141 | 143 (Slight Overcount) | Near 100% |
| RIKSHAW | 71 | 69% | 103 | 100 | Near 100% |

**ShahBag**

Run With train9 best.pt v2 **Yolo v11**  
Run with yolov11n  
LINE\_START: (68, 515)  
LINE\_END: (798, 535)  
Location: Shahbag, shahbag23y8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 179 (overcount) | 94% | 169 | 8 | 4% |
| Car | 279 (overcount) | 87% | 247 | 296 (overcount) | 84% |
| Bus | 65 | 97% | 63 | 84 ( overcount) | 75% |
| CNG | 157 | 100% | 157 | 141 | 90% |
| RIKSHAW | 119 | 73% | 163 | 104 | 64% |

**BanglaMotor**

Run With train9 best.pt , v2 , **Yolo v11** ( THIS MODEL IS FINE TUNED WITH BANGLAMOTOR, Without fine tunning the model was giving near zero count for rikshaw, but even after fine tunning the accuracy for rikshaw is still low)   
LINE\_START: (758, 179)  
LINE\_END: (972, 209)  
vtid2\_bm.mp4  
Run with yolov8l.pt  
LINE\_START: (716, 171)  
LINE\_END: (1016, 200)

banglamotorb28i.mp4

yolo8l

**Location : Banglamotor**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 153 | 90% | 171 | 15 |  |
| Car | 188 ( OverCount) | 88% | 168 | 339 |  |
| Bus | 33 | 90% | 30 | 61 |  |
| CNG | 190 ( Overcount) | 92% | 176 | 147 | 84% |
| RIKSHAW | 15 | 8% | 92 | 27 | 30% |

With yolo8l

Total objects of class 2 car crossed the line: 339

Total objects of class 5 bus crossed the line: 61

Total objects of class 3 motorcycle crossed the line: 15

With 11n

Total objects of class 2 car crossed the line: 201

Total objects of class 5 bus crossed the line: 58

Total objects of class 3 motorcycle crossed the line: 1

Maam,

Initially, we extracted diverse images from various video footage we collected. Then, using augmentation techniques, we expanded the dataset to around 3,500 images, which were also annotated (compared to Nayeem's previous dataset of around 435 images). We trained the entire dataset for CNGs and rickshaws using YOLOv11. I applied various methods and trained the model several times to improve accuracy.

Here is the report and compares of the accuracy of the previous model and newly trained model.

**Full Report**

**Katabon**

Run With train9 best.pt v4 **Yolo v11**  
katabon\_\_tbsjd.mp4  
Run With yolo11n.pt v4   
LINE\_START**:** (9, 509)  
LINE\_END: (1050, 350)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 151 (overcount) | 94% | 142 | 132 | 93% |
| Car | 252 | 98% | 257 | 335  (overcount) | 76% |
| Bus | 64 (overcount) | 93% | 60 | 83  (Overcount)  Reason: Some truckvan are counted as bus!!! | 72% |
| CNG | 108 | 77% | 141 | 143 (Slight Overcount) | Near 100% |
| RIKSHAW | 71 | 69% | 103 | 100 | Near 100% |

**ShahBag**

Run With train9 best.pt v2 **Yolo v11**  
Run with yolov11n  
LINE\_START: (68, 515)  
LINE\_END: (798, 535)  
Location: Shahbag, shahbag23y8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 179 (overcount) | 94% | 169 | 8 | 4% |
| Car | 279 (overcount) | 87% | 247 | 296 (overcount) | 84% |
| Bus | 65 | 97% | 63 | 84 ( overcount) | 75% |
| CNG | 157 | 100% | 157 | 141 | 90% |
| RIKSHAW | 119 | 73% | 163 | 104 | 64% |

**Findings:**

* Sometimes the previous model’s accuracy seems higher, but on closer inspection, some data was overcounted. We calculate accuracy using (result/actual count), but this method only works correctly if the result is less than the actual count.
* The system uses two weight files:
  + **Weight 1**: Our custom-trained model for rickshaws and CNGs.
  + **Weight 2**: The default COCO dataset weight file.

**Reason of overcounting in many places :**

Besides counting cng and rikshaw, I face issues when counting buses, cars, or motorcycles. CNGs are often misclassified as cars. This problem was mentioned in the initial paper but wasn't addressed later. Despite my efforts, I haven’t been able to resolve this issue.

Maam , I am sorry to updating very slowly, because, Each training or video processing task can take more than a day, which has slowed our progress. I’ve been working diligently day and night, but the results are not as satisfactory as expected. I’m seeking your guidance on how to proceed. Additionally, I am surprised that Nayeem’s smaller dataset of only 435 images produced better results, whereas my larger dataset of 3,500 images is showing lower accuracy sometimes.

Maam, I am very sorry, I tried my best. I have dedicatedly work for this day and night for last 14 days, tried by best to my knowledge, but I am unable to produce a good result in this case, very less than expected, and sometimes the accuracy is so much bad than the previous works of Nayeem. There may be something which I missed. I am looking for your direction.

--

Major breach found

15 oct 2024

Making same weight file

yolo detect train data=data.yaml model= yolo11n.pt epochs=100 imgsz=640 batch=12 device=0

I:\Git\Code-With-Nayeem\Train\_With\_GPU\_\_v2\_Same\_Weight>yolo detect train data=data.yaml model= yolo11n.pt epochs=100 imgsz=640 batch=12 device=0

New https://pypi.org/project/ultralytics/8.3.13 available 😃 Update with 'pip install -U ultralytics'

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

engine\trainer: task=detect, mode=train, model=yolo11n.pt, data=data.yaml, epochs=100, time=None, patience=100, batch=12, imgsz=640, save=True, save\_period=-1, cache=False, device=0, workers=8, project=None, name=train2, exist\_ok=False, pretrained=True, optimizer=auto, verbose=True, seed=0, deterministic=True, single\_cls=False, rect=False, cos\_lr=False, close\_mosaic=10, resume=False, amp=True, fraction=1.0, profile=False, freeze=None, multi\_scale=False, overlap\_mask=True, mask\_ratio=4, dropout=0.0, val=True, split=val, save\_json=False, save\_hybrid=False, conf=None, iou=0.7, max\_det=300, half=False, dnn=False, plots=True, source=None, vid\_stride=1, stream\_buffer=False, visualize=False, augment=False, agnostic\_nms=False, classes=None, retina\_masks=False, embed=None, show=False, save\_frames=False, save\_txt=False, save\_conf=False, save\_crop=False, show\_labels=True, show\_conf=True, show\_boxes=True, line\_width=None, format=torchscript, keras=False, optimize=False, int8=False, dynamic=False, simplify=True, opset=None, workspace=4, nms=False, lr0=0.01, lrf=0.01, momentum=0.937, weight\_decay=0.0005, warmup\_epochs=3.0, warmup\_momentum=0.8, warmup\_bias\_lr=0.1, box=7.5, cls=0.5, dfl=1.5, pose=12.0, kobj=1.0, label\_smoothing=0.0, nbs=64, hsv\_h=0.015, hsv\_s=0.7, hsv\_v=0.4, degrees=0.0, translate=0.1, scale=0.5, shear=0.0, perspective=0.0, flipud=0.0, fliplr=0.5, bgr=0.0, mosaic=1.0, mixup=0.0, copy\_paste=0.0, copy\_paste\_mode=flip, auto\_augment=randaugment, erasing=0.4, crop\_fraction=1.0, cfg=None, tracker=botsort.yaml, save\_dir=runs\detect\train2

Overriding model.yaml nc=80 with nc=82

from n params module arguments

0 -1 1 464 ultralytics.nn.modules.conv.Conv [3, 16, 3, 2]

1 -1 1 4672 ultralytics.nn.modules.conv.Conv [16, 32, 3, 2]

2 -1 1 6640 ultralytics.nn.modules.block.C3k2 [32, 64, 1, False, 0.25]

3 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

4 -1 1 26080 ultralytics.nn.modules.block.C3k2 [64, 128, 1, False, 0.25]

5 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

6 -1 1 87040 ultralytics.nn.modules.block.C3k2 [128, 128, 1, True]

7 -1 1 295424 ultralytics.nn.modules.conv.Conv [128, 256, 3, 2]

8 -1 1 346112 ultralytics.nn.modules.block.C3k2 [256, 256, 1, True]

9 -1 1 164608 ultralytics.nn.modules.block.SPPF [256, 256, 5]

10 -1 1 249728 ultralytics.nn.modules.block.C2PSA [256, 256, 1]

11 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

12 [-1, 6] 1 0 ultralytics.nn.modules.conv.Concat [1]

13 -1 1 111296 ultralytics.nn.modules.block.C3k2 [384, 128, 1, False]

14 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

15 [-1, 4] 1 0 ultralytics.nn.modules.conv.Concat [1]

16 -1 1 32096 ultralytics.nn.modules.block.C3k2 [256, 64, 1, False]

17 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

18 [-1, 13] 1 0 ultralytics.nn.modules.conv.Concat [1]

19 -1 1 86720 ultralytics.nn.modules.block.C3k2 [192, 128, 1, False]

20 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

21 [-1, 10] 1 0 ultralytics.nn.modules.conv.Concat [1]

22 -1 1 378880 ultralytics.nn.modules.block.C3k2 [384, 256, 1, True]

23 [16, 19, 22] 1 467848 ultralytics.nn.modules.head.Detect [82, [64, 128, 256]]

YOLO11n summary: 319 layers, 2,627,016 parameters, 2,627,000 gradients, 6.6 GFLOPs

Transferred 448/499 items from pretrained weights

TensorBoard: Start with 'tensorboard --logdir runs\detect\train2', view at http://localhost:6006/

Freezing layer 'model.23.dfl.conv.weight'

AMP: running Automatic Mixed Precision (AMP) checks with YOLO11n...

AMP: checks passed ✅

train: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\_\_v2\_Same\_Weight\train\labels... 3160 images, 546 backgrounds, 0

train: New cache created: I:\Git\Code-With-Nayeem\Train\_With\_GPU\_\_v2\_Same\_Weight\train\labels.cache

val: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\_\_v2\_Same\_Weight\valid\labels... 312 images, 53 backgrounds, 0 corr

val: New cache created: I:\Git\Code-With-Nayeem\Train\_With\_GPU\_\_v2\_Same\_Weight\valid\labels.cache

Plotting labels to runs\detect\train2\labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...

optimizer: AdamW(lr=0.000116, momentum=0.9) with parameter groups 81 weight(decay=0.0), 88 weight(decay=0.00046875), 87 bias(decay=0.0)

TensorBoard: model graph visualization added ✅

Image sizes 640 train, 640 val

Using 8 dataloader workers

Logging results to runs\detect\train2

Starting training for 100 epochs...

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

1/100 2.08G 2.123 5.542 1.825 59 64 1/100 2.08G 2.122 5.54 1.822 66 64 1/100 2.08G 2.122 5.54 1.822 66 64 1/100 2.08G 2.12 5.539 1.821 43 64 1/100 2.08G 2.12 5.539 1.821 43 64 1/100 2.08G 2.119 5.536 1.82 65 64 1/100 2.08G 2.119 5.536 1.82 65 64 1/100 2.08G 2.117 5.533 1.819 73 64 1/100 2.08G 2.117 5.533 1.819 73 64 1/100 2.08G 2.115 5.531 1.817 51 64 1/100 2.08G 2.115 5.531 1.817 51 64 1/100 2.08G 2.115 5.529 1.817 52 64 1/100 2.08G 2.115 5.529 1.817 52 64 1/100 2.08G 2.113 5.527 1.815 39 64 1/100 1/100 2.11G 2.024 5.23 1.718 31 640: 100%|██████████| 264/264 [06:39<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.501 0.3 0.267 0.123

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

2/100 2.12G 1.939 3.137 1.602 5 640: 100%|██████████| 264/264 [06:35<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:25

all 312 941 0.606 0.564 0.597 0.283

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

3/100 2.13G 1.85 2.107 1.546 20 640: 100%|██████████| 264/264 [08:30<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:25

all 312 941 0.693 0.675 0.716 0.356

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

4/100 2.13G 1.777 1.822 1.515 11 640: 100%|██████████| 264/264 [06:21<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.692 0.716 0.73 0.366

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

5/100 2.13G 1.738 1.697 1.489 32 640: 100%|██████████| 264/264 [06:45<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.773 0.739 0.796 0.401

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

6/100 2.11G 1.696 1.598 1.45 8 640: 100%|██████████| 264/264 [06:55<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:19

all 312 941 0.733 0.773 0.792 0.407

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

7/100 2.1G 1.653 1.48 1.422 11 640: 100%|██████████| 264/264 [06:57<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.756 0.765 0.801 0.415

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

8/100 2.08G 1.639 1.439 1.418 7 640: 100%|██████████| 264/264 [06:46<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:15

all 312 941 0.78 0.78 0.813 0.426

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

9/100 2.16G 1.634 1.372 1.398 8 640: 100%|██████████| 264/264 [08:07<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:25

all 312 941 0.774 0.782 0.822 0.427

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

10/100 2.1G 1.604 1.319 1.38 12 640: 100%|██████████| 264/264 [07:06<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:28

all 312 941 0.753 0.825 0.837 0.435

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

11/100 2.12G 1.606 1.28 1.369 18 640: 100%|██████████| 264/264 [06:41<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.801 0.814 0.841 0.44

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

12/100 2.12G 1.588 1.241 1.362 11 640: 100%|██████████| 264/264 [06:41<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.784 0.803 0.839 0.425

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

13/100 2.12G 1.587 1.222 1.36 41 640: 100%|██████████| 264/264 [06:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.816 0.805 0.855 0.448

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

14/100 2.09G 1.554 1.193 1.345 27 640: 100%|██████████| 264/264 [07:05<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:21

all 312 941 0.795 0.822 0.834 0.422

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

15/100 2.12G 1.534 1.15 1.335 24 640: 100%|██████████| 264/264 [06:45<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.791 0.841 0.854 0.458

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

16/100 2.08G 1.532 1.125 1.337 18 640: 100%|██████████| 264/264 [07:03<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.801 0.821 0.855 0.45

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

17/100 2.1G 1.515 1.111 1.325 10 640: 100%|██████████| 264/264 [07:09<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.793 0.821 0.847 0.453

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

18/100 2.1G 1.503 1.087 1.315 26 640: 100%|██████████| 264/264 [07:03<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:15

all 312 941 0.776 0.844 0.84 0.433

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

19/100 2.12G 1.498 1.065 1.309 40 640: 100%|██████████| 264/264 [06:37<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.821 0.84 0.863 0.461

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

20/100 2.12G 1.499 1.054 1.298 14 640: 100%|██████████| 264/264 [06:35<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.813 0.844 0.866 0.461

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

21/100 2.11G 1.48 1.027 1.294 11 640: 100%|██████████| 264/264 [07:18<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.828 0.813 0.855 0.422

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

22/100 2.11G 1.459 1.005 1.285 14 640: 100%|██████████| 264/264 [06:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:19

all 312 941 0.82 0.844 0.875 0.462

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

23/100 2.1G 1.47 1.004 1.287 18 640: 100%|██████████| 264/264 [07:12<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.819 0.83 0.855 0.434

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

24/100 2.12G 1.453 0.9922 1.276 8 640: 100%|██████████| 264/264 [06:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.812 0.85 0.869 0.453

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

25/100 2.1G 1.455 0.996 1.274 4 640: 100%|██████████| 264/264 [07:12<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.841 0.831 0.88 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

26/100 2.1G 1.441 0.9702 1.276 43 640: 100%|██████████| 264/264 [07:07<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:28

all 312 941 0.823 0.855 0.88 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

27/100 2.09G 1.436 0.9584 1.269 7 640: 100%|██████████| 264/264 [07:09<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.836 0.837 0.881 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

28/100 2.1G 1.431 0.9638 1.264 15 640: 100%|██████████| 264/264 [07:08<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:21

all 312 941 0.848 0.837 0.874 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

29/100 2.12G 1.415 0.9376 1.265 8 640: 100%|██████████| 264/264 [06:47<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.857 0.821 0.876 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

30/100 2.1G 1.411 0.9427 1.254 14 640: 100%|██████████| 264/264 [07:11<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.816 0.852 0.865 0.456

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

31/100 2.1G 1.416 0.9325 1.252 12 640: 100%|██████████| 264/264 [07:10<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.842 0.834 0.881 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

32/100 2.09G 1.406 0.9101 1.249 20 640: 100%|██████████| 264/264 [07:12<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.83 0.838 0.869 0.459

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

33/100 2.08G 1.393 0.9008 1.24 6 640: 100%|██████████| 264/264 [07:06<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.832 0.849 0.872 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

34/100 2.12G 1.376 0.9064 1.239 24 640: 100%|██████████| 264/264 [06:42<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:15

all 312 941 0.828 0.851 0.868 0.458

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

35/100 2.12G 1.386 0.8963 1.235 41 640: 100%|██████████| 264/264 [06:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.823 0.852 0.875 0.46

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

36/100 2.11G 1.376 0.884 1.231 13 640: 100%|██████████| 264/264 [07:09<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.829 0.839 0.875 0.459

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

37/100 2.09G 1.369 0.8855 1.225 28 640: 100%|██████████| 264/264 [07:07<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.827 0.844 0.874 0.46

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

38/100 2.1G 1.352 0.8697 1.217 16 640: 100%|██████████| 264/264 [07:14<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.824 0.867 0.88 0.461

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

39/100 2.12G 1.344 0.8605 1.215 11 640: 100%|██████████| 264/264 [06:41<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.835 0.834 0.873 0.46

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

40/100 2.1G 1.367 0.8729 1.222 7 640: 100%|██████████| 264/264 [07:21<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.817 0.863 0.87 0.456

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

41/100 2.15G 1.337 0.8577 1.209 15 640: 100%|██████████| 264/264 [08:38<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:25

all 312 941 0.809 0.861 0.878 0.47

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

42/100 2.11G 1.35 0.8532 1.212 7 640: 100%|██████████| 264/264 [06:47<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.822 0.859 0.883 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

43/100 2.11G 1.323 0.8445 1.204 19 640: 100%|██████████| 264/264 [07:18<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.814 0.862 0.869 0.458

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

44/100 2.12G 1.332 0.8393 1.198 7 640: 100%|██████████| 264/264 [06:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.849 0.844 0.883 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

45/100 2.11G 1.307 0.8266 1.197 16 640: 100%|██████████| 264/264 [07:12<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.837 0.841 0.88 0.457

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

46/100 2.1G 1.303 0.8162 1.19 26 640: 100%|██████████| 264/264 [07:15<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.832 0.849 0.878 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

47/100 2.11G 1.29 0.8131 1.189 19 640: 100%|██████████| 264/264 [06:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.83 0.87 0.884 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

48/100 2.1G 1.305 0.8103 1.192 23 640: 100%|██████████| 264/264 [07:17<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.845 0.843 0.881 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

49/100 2.12G 1.304 0.8165 1.185 17 640: 100%|██████████| 264/264 [06:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.833 0.866 0.878 0.459

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

50/100 2.1G 1.309 0.8078 1.19 16 640: 100%|██████████| 264/264 [07:13<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:25

all 312 941 0.83 0.854 0.88 0.459

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

51/100 2.1G 1.299 0.8039 1.185 39 640: 100%|██████████| 264/264 [07:17<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.838 0.854 0.881 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

52/100 2.1G 1.289 0.7937 1.177 5 640: 100%|██████████| 264/264 [07:18<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:26

all 312 941 0.837 0.853 0.883 0.472

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

53/100 2.1G 1.283 0.7958 1.177 10 640: 100%|██████████| 264/264 [07:15<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.843 0.849 0.883 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

54/100 2.09G 1.283 0.7985 1.18 16 640: 100%|██████████| 264/264 [05:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:14

all 312 941 0.825 0.869 0.882 0.459

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

55/100 2.12G 1.27 0.7892 1.171 29 640: 100%|██████████| 264/264 [06:47<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.829 0.863 0.881 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

56/100 2.13G 1.262 0.7742 1.171 5 640: 100%|██████████| 264/264 [08:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:19

all 312 941 0.831 0.864 0.879 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

57/100 2.09G 1.261 0.7723 1.17 19 640: 100%|██████████| 264/264 [07:18<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.826 0.852 0.875 0.461

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

58/100 2.08G 1.26 0.7734 1.168 19 640: 100%|██████████| 264/264 [05:45<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:14

all 312 941 0.817 0.866 0.876 0.469

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

59/100 2.12G 1.258 0.78 1.17 17 640: 100%|██████████| 264/264 [06:46<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.837 0.853 0.884 0.472

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

60/100 2.13G 1.261 0.7795 1.16 13 640: 100%|██████████| 264/264 [06:39<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.831 0.855 0.877 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

61/100 2.11G 1.251 0.7668 1.162 27 640: 100%|██████████| 264/264 [06:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.848 0.84 0.886 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

62/100 2.11G 1.25 0.7608 1.157 10 640: 100%|██████████| 264/264 [06:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.831 0.861 0.876 0.461

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

63/100 2.1G 1.251 0.7689 1.162 13 640: 100%|██████████| 264/264 [07:14<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.847 0.85 0.879 0.462

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

64/100 2.12G 1.237 0.7711 1.153 22 640: 100%|██████████| 264/264 [06:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:27

all 312 941 0.846 0.842 0.881 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

65/100 2.12G 1.242 0.7557 1.151 31 640: 100%|██████████| 264/264 [06:50<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.82 0.861 0.875 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

66/100 2.1G 1.231 0.7426 1.142 10 640: 100%|██████████| 264/264 [07:16<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:19

all 312 941 0.799 0.883 0.875 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

67/100 2.09G 1.223 0.7432 1.145 16 640: 100%|██████████| 264/264 [07:21<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.809 0.888 0.881 0.469

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

68/100 2.13G 1.226 0.7507 1.147 13 640: 100%|██████████| 264/264 [08:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.841 0.855 0.883 0.471

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

69/100 2.1G 1.226 0.7411 1.145 20 640: 100%|██████████| 264/264 [07:16<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.83 0.87 0.884 0.473

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

70/100 2.12G 1.219 0.735 1.141 6 640: 100%|██████████| 264/264 [06:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.842 0.857 0.881 0.469

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

71/100 2.15G 1.213 0.731 1.139 27 640: 100%|██████████| 264/264 [06:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.822 0.886 0.881 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

72/100 2.11G 1.206 0.7336 1.133 35 640: 100%|██████████| 264/264 [06:56<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.836 0.856 0.882 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

73/100 2.12G 1.199 0.7263 1.135 16 640: 100%|██████████| 264/264 [05:47<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.844 0.849 0.883 0.473

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

74/100 2.12G 1.195 0.7314 1.128 13 640: 100%|██████████| 264/264 [08:30<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.83 0.866 0.883 0.47

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

75/100 2.1G 1.181 0.7199 1.134 18 640: 100%|██████████| 264/264 [05:44<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:21

all 312 941 0.841 0.837 0.879 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

76/100 2.08G 1.198 0.7233 1.132 12 640: 100%|██████████| 264/264 [06:13<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.841 0.861 0.884 0.471

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

77/100 2.11G 1.187 0.716 1.128 30 640: 100%|██████████| 264/264 [05:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.847 0.857 0.885 0.471

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

78/100 2.1G 1.199 0.7265 1.132 3 640: 100%|██████████| 264/264 [07:11<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:17

all 312 941 0.832 0.864 0.876 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

79/100 2.12G 1.173 0.7104 1.123 32 640: 100%|██████████| 264/264 [06:58<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.837 0.847 0.878 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

80/100 2.1G 1.189 0.7161 1.131 10 640: 100%|██████████| 264/264 [05:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:16

all 312 941 0.84 0.859 0.88 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

81/100 2.12G 1.188 0.7156 1.125 8 640: 100%|██████████| 264/264 [06:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.842 0.859 0.879 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

82/100 2.12G 1.166 0.7099 1.122 10 640: 100%|██████████| 264/264 [07:01<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.843 0.863 0.879 0.47

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

83/100 2.17G 1.175 0.7099 1.122 23 640: 100%|██████████| 264/264 [08:12<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [01:11

all 312 941 0.838 0.864 0.88 0.466

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

84/100 2.15G 1.17 0.7055 1.122 23 640: 100%|██████████| 264/264 [05:51<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.845 0.864 0.884 0.47

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

85/100 2.13G 1.161 0.6964 1.119 10 640: 100%|██████████| 264/264 [05:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.835 0.862 0.88 0.469

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

86/100 2.15G 1.167 0.7049 1.117 7 640: 100%|██████████| 264/264 [06:53<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:24

all 312 941 0.829 0.87 0.883 0.47

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

87/100 2.13G 1.172 0.7073 1.12 27 640: 100%|██████████| 264/264 [06:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.835 0.865 0.884 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

88/100 2.13G 1.179 0.7125 1.119 12 640: 100%|██████████| 264/264 [06:48<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:19

all 312 941 0.839 0.871 0.885 0.468

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

89/100 2.12G 1.181 0.7072 1.118 13 640: 100%|██████████| 264/264 [06:52<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.841 0.868 0.879 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

90/100 2.13G 1.154 0.6945 1.107 11 640: 100%|██████████| 264/264 [06:49<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.838 0.87 0.883 0.468

Closing dataloader mosaic

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

91/100 2.13G 1.192 0.6668 1.125 12 640: 100%|██████████| 264/264 [06:16<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:26

all 312 941 0.821 0.846 0.861 0.454

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

92/100 2.09G 1.166 0.6452 1.111 7 640: 100%|██████████| 264/264 [06:57<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.828 0.848 0.867 0.457

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

93/100 2.13G 1.156 0.6407 1.099 9 640: 100%|██████████| 264/264 [06:37<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.819 0.864 0.876 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

94/100 2.08G 1.149 0.6392 1.105 6 640: 100%|██████████| 264/264 [07:00<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.833 0.86 0.883 0.463

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

95/100 2.14G 1.137 0.6333 1.096 9 640: 100%|██████████| 264/264 [06:28<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:23

all 312 941 0.826 0.865 0.882 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

96/100 2.12G 1.133 0.6282 1.093 2 640: 100%|██████████| 264/264 [06:34<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:20

all 312 941 0.838 0.857 0.881 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

97/100 2.1G 1.128 0.6247 1.093 12 640: 100%|██████████| 264/264 [06:03<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:21

all 312 941 0.831 0.862 0.876 0.465

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

98/100 2.08G 1.128 0.6262 1.097 3 640: 100%|██████████| 264/264 [05:40<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:30

all 312 941 0.839 0.859 0.878 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

99/100 2.1G 1.133 0.6281 1.093 6 640: 100%|██████████| 264/264 [05:45<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:22

all 312 941 0.836 0.862 0.878 0.46

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

100/100 2.1G 1.124 0.627 1.09 13 640: 100%|██████████| 264/264 [07:10<00:00,

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:18

all 312 941 0.837 0.859 0.876 0.46

100 epochs completed in 12.197 hours.

Optimizer stripped from runs\detect\train2\weights\last.pt, 5.6MB

Optimizer stripped from runs\detect\train2\weights\best.pt, 5.6MB

Validating runs\detect\train2\weights\best.pt...

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

YOLO11n summary (fused): 238 layers, 2,619,166 parameters, 0 gradients, 6.5 GFLOPs

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 13/13 [00:07

all 312 941 0.83 0.872 0.884 0.473

cng 197 498 0.883 0.913 0.933 0.531

rikshaw 133 443 0.776 0.831 0.835 0.414

Speed: 1.0ms preprocess, 19.8ms inference, 0.0ms loss, 0.9ms postprocess per image

Results saved to runs\detect\train2

💡 Learn more at <https://docs.ultralytics.com/modes/train>

yolo task=detect mode=train data=data.yaml model=yolo11n.pt epochs=10 imgsz=640 batch=12 device=0 --freeze=10

yolo detect train data=data.yaml model= yolo11n.pt epochs=10 imgsz=640 batch=16 device=0 freeze=10

**Katabon**

Run With train9 best.pt v4 **Yolo v11**  
katabon\_\_tbsjd.mp4  
Run With yolo11n.pt v4   
LINE\_START**:** (9, 509)  
LINE\_END: (1050, 350)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Error | Manual Count |  | New Train Count | Accuracy |
| MotorCycle | 151 (overcount) | 94% | 7% + | 142 | 7% - | 132 | 93% |
| Car | 252 | 98% | 1% - | 257 | 24% + | 335  (overcount) | 76% |
| Bus | 64 (overcount) | 93% |  | 60 |  | 83  (Overcount)  Reason: Some truckvan are counted as bus!!! | 72% |
| CNG | 108 | 77% |  | 141 |  | 143 (Slight Overcount) | Near 100% |
| RIKSHAW | 71 | 69% |  | 103 |  | 100 | Near 100% |

**ShahBag**

Run With train9 best.pt v2 **Yolo v11**  
Run with yolov11n  
LINE\_START: (68, 515)  
LINE\_END: (798, 535)  
Location: Shahbag, shahbag23y8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 179 (overcount) | 94% | 169 | 8 | 4% |
| Car | 279 (overcount) | 87% | 247 | 296 (overcount) | 84% |
| Bus | 65 | 97% | 63 | 84 ( overcount) | 75% |
| CNG | 157 | 100% | 157 | 141 | 90% |
| RIKSHAW | 119 | 73% | 163 | 104 | 64% |

**BanglaMotor**

Run With train9 best.pt , v2 , **Yolo v11** ( THIS MODEL IS FINE TUNED WITH BANGLAMOTOR, Without fine tunning the model was giving near zero count for rikshaw, but even after fine tunning the accuracy for rikshaw is still low)   
LINE\_START: (758, 179)  
LINE\_END: (972, 209)  
vtid2\_bm.mp4  
Run with yolov8l.pt  
LINE\_START: (716, 171)  
LINE\_END: (1016, 200)

banglamotorb28i.mp4

yolo8l

**Location : Banglamotor**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Accuracy | Manual Count | New Train Count | Accuracy |
| MotorCycle | 153 | 90% | 171 | 15 |  |
| Car | 188 ( OverCount) | 88% | 168 | 339 |  |
| Bus | 33 | 90% | 30 | 61 |  |
| CNG | 190 ( Overcount) | 92% | 176 | 147 | 84% |
| RIKSHAW | 15 | 8% | 92 | 27 | 30% |

With yolo8l

Total objects of class 2 car crossed the line: 339

Total objects of class 5 bus crossed the line: 61

Total objects of class 3 motorcycle crossed the line: 15

With 11n

Total objects of class 2 car crossed the line: 201

Total objects of class 5 bus crossed the line: 58

Total objects of class 3 motorcycle crossed the line: 1

**New on 16 oct 2024**

**Katabon (n)**

LINE\_START: (9, 509)

LINE\_END: (1050, 350)

Total number of frames in the video: 45612

Time taken: 4363.020670175552

Processing complete.

Total objects of class 0 cng crossed the line: 144

Total objects of class 1 rikshaw crossed the line: 104

Total objects of class 3 motorcycle crossed the line: 136

Total objects of class 5 bus crossed the line: 70

Total objects of class 2 car crossed the line: 297

**Train9 , 11n**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Error | Manual Count | Error | New Train Count |
| MotorCycle | 151 (overcount) | 7% + | 142 | 4%- | 136 |
| Car | 252 | 3% - | 257 | 11% + | 297 |
| Bus | 64 (overcount) | 7% + | 60 | 16% + | 70 |
| CNG | 108 | 24% - | 141 | 2%+ | 144 |
| RIKSHAW | 71 | 31%+ | 103 | 1%+ | 104 |

**ShahBag(****m)**

LINE\_START: (68, 515)

LINE\_END: (798, 535)

Starting processing...

Total number of frames in the video: 50160

Error: Could not read frame.

Time taken: 6077.307904243469

Processing complete.

Total objects of class 0 cng crossed the line: 143

Total objects of class 1 rikshaw crossed the line: 110

Total objects of class 2 car crossed the line: 290

Total objects of class 5 bus crossed the line: 87

Total objects of class 3 motorcycle crossed the line: 68

Train9 , 11l

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Error | Manual Count | Error | New Count |
| MotorCycle | 179 (overcount) | 6%+ | 169 | 59%- | 68 |
| Car | 279 (overcount) | 13%+ | 247 | 17%+ | 290 |
| Bus | 65 | 3% - | 63 | 38%+ | 87 |
| CNG | 157 | 0% | 157 | 8%- | 143 |
| RIKSHAW | 119 | 26% - | 163 | 32%- | 110 |

**BanglaMotor(l)**

**Train14, 11l**

**Location : Banglamotor**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Error | Manual Count | Error | New Train Count |
| MotorCycle | 153 | 11%- | 171 |  | 1 |
| Car | 188 ( OverCount) | 12%+ | 168 |  | 217 |
| Bus | 33 | 10%- | 30 |  | 29 |
| CNG | 190 ( Overcount) | 8%+ | 176 |  | 146 |
| RIKSHAW | 15 | 92%- | 92 |  | 39 |

LINE\_START: (796, 111)

LINE\_END: (995, 156)

Starting processing...

Total number of frames in the video: 63936

Error: Could not read frame.

Time taken: 9040.301609039307

Processing complete.

Total objects of class 0 cng crossed the line: 146

Total objects of class 1 rikshaw crossed the line: 39

Total objects of class 2 car crossed the line: 217

Total objects of class 5 bus crossed the line: 29

Total objects of class 3 motorcycle crossed the line: 1

model1 = YOLO("I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train14/weights/best.pt")

model2 = YOLO("yolo11m.pt")#pretrained

LINE\_START: (716, 171)

LINE\_END: (1016, 200)

Starting processing...

Total number of frames in the video: 63936

Error: Could not read frame.

Time taken: 16861.335642814636

Processing complete.

Total objects of class 0 cng crossed the line: 185

Total objects of class 1 rikshaw crossed the line: 54

Total objects of class 2 car crossed the line: 237

Total objects of class 5 bus crossed the line: 64

Total objects of class 3 motorcycle crossed the line: 14

============

Combined banglamotor

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Type | Nayeem Count Algorithm | Error | Manual Count | Error | New Train Count |
| MotorCycle | 153 | 11%- | 171 | 95% | 8 |
| Car | 188 ( OverCount) | 12%+ | 168 | 59% | 227 |
| Bus | 33 | 10%- | 30 | 53% | 46 |
| CNG | 190 ( Overcount) | 8%+ | 176 | 5%+ | 185 |
| RIKSHAW | 15 | 92%- | 92 | 41%- | 54 |

Cng rikshaw

Total objects of class 0 cng crossed the line: 185

Total objects of class 1 rikshaw crossed the line: 54

LINE\_START: (716, 171)

LINE\_END: (1016, 200)

Total objects of class 2 car crossed the line: 237

Total objects of class 5 bus crossed the line: 64

Total objects of class 3 motorcycle crossed the line: 14

And

Total objects of class 2 car crossed the line: 217

Total objects of class 5 bus crossed the line: 29

Total objects of class 3 motorcycle crossed the line: 1

yolo detect train data=data.yaml model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train9/weights/best.pt epochs=20 imgsz=640 batch=12 device=0

I:\Git\Code-With-Nayeem\Train\_With\_GPU>yolo detect train data=data.yaml model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train9/weights/best.pt epochs=20 imgsz=640 batch=10 device=0

New https://pypi.org/project/ultralytics/8.3.14 available 😃 Update with 'pip install -U ultralytics'

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

engine\trainer: task=detect, mode=train, model=I:/Git/Code-With-Nayeem/Train\_With\_GPU/runs/detect/train9/weights/best.pt, data=data.yaml, epochs=20, time=None, patience=100, batch=10, imgsz=640, save=True, save\_period=-1, cache=False, device=0, workers=8, project=None, name=train14, exist\_ok=False, pretrained=True, optimizer=auto, verbose=True, seed=0, deterministic=True, single\_cls=False, rect=False, cos\_lr=False, close\_mosaic=10, resume=False, amp=True, fraction=1.0, profile=False, freeze=None, multi\_scale=False, overlap\_mask=True, mask\_ratio=4, dropout=0.0, val=True, split=val, save\_json=False, save\_hybrid=False, conf=None, iou=0.7, max\_det=300, half=False, dnn=False, plots=True, source=None, vid\_stride=1, stream\_buffer=False, visualize=False, augment=False, agnostic\_nms=False, classes=None, retina\_masks=False, embed=None, show=False, save\_frames=False, save\_txt=False, save\_conf=False, save\_crop=False, show\_labels=True, show\_conf=True, show\_boxes=True, line\_width=None, format=torchscript, keras=False, optimize=False, int8=False, dynamic=False, simplify=True, opset=None, workspace=4, nms=False, lr0=0.01, lrf=0.01, momentum=0.937, weight\_decay=0.0005, warmup\_epochs=3.0, warmup\_momentum=0.8, warmup\_bias\_lr=0.1, box=7.5, cls=0.5, dfl=1.5, pose=12.0, kobj=1.0, label\_smoothing=0.0, nbs=64, hsv\_h=0.015, hsv\_s=0.7, hsv\_v=0.4, degrees=0.0, translate=0.1, scale=0.5, shear=0.0, perspective=0.0, flipud=0.0, fliplr=0.5, bgr=0.0, mosaic=1.0, mixup=0.0, copy\_paste=0.0, copy\_paste\_mode=flip, auto\_augment=randaugment, erasing=0.4, crop\_fraction=1.0, cfg=None, tracker=botsort.yaml, save\_dir=runs\detect\train14

from n params module arguments

0 -1 1 464 ultralytics.nn.modules.conv.Conv [3, 16, 3, 2]

1 -1 1 4672 ultralytics.nn.modules.conv.Conv [16, 32, 3, 2]

2 -1 1 6640 ultralytics.nn.modules.block.C3k2 [32, 64, 1, False, 0.25]

3 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

4 -1 1 26080 ultralytics.nn.modules.block.C3k2 [64, 128, 1, False, 0.25]

5 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

6 -1 1 87040 ultralytics.nn.modules.block.C3k2 [128, 128, 1, True]

7 -1 1 295424 ultralytics.nn.modules.conv.Conv [128, 256, 3, 2]

8 -1 1 346112 ultralytics.nn.modules.block.C3k2 [256, 256, 1, True]

9 -1 1 164608 ultralytics.nn.modules.block.SPPF [256, 256, 5]

10 -1 1 249728 ultralytics.nn.modules.block.C2PSA [256, 256, 1]

11 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

12 [-1, 6] 1 0 ultralytics.nn.modules.conv.Concat [1]

13 -1 1 111296 ultralytics.nn.modules.block.C3k2 [384, 128, 1, False]

14 -1 1 0 torch.nn.modules.upsampling.Upsample [None, 2, 'nearest']

15 [-1, 4] 1 0 ultralytics.nn.modules.conv.Concat [1]

16 -1 1 32096 ultralytics.nn.modules.block.C3k2 [256, 64, 1, False]

17 -1 1 36992 ultralytics.nn.modules.conv.Conv [64, 64, 3, 2]

18 [-1, 13] 1 0 ultralytics.nn.modules.conv.Concat [1]

19 -1 1 86720 ultralytics.nn.modules.block.C3k2 [192, 128, 1, False]

20 -1 1 147712 ultralytics.nn.modules.conv.Conv [128, 128, 3, 2]

21 [-1, 10] 1 0 ultralytics.nn.modules.conv.Concat [1]

22 -1 1 378880 ultralytics.nn.modules.block.C3k2 [384, 256, 1, True]

23 [16, 19, 22] 1 431062 ultralytics.nn.modules.head.Detect [2, [64, 128, 256]]

YOLO11n summary: 319 layers, 2,590,230 parameters, 2,590,214 gradients, 6.4 GFLOPs

Transferred 499/499 items from pretrained weights

TensorBoard: Start with 'tensorboard --logdir runs\detect\train14', view at http://localhost:6006/

Freezing layer 'model.23.dfl.conv.weight'

AMP: running Automatic Mixed Precision (AMP) checks with YOLO11n...

AMP: checks passed ✅

train: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\train\labels.cache... 3160 images, 546 backgrounds, 0 corrupt: 100%|██████████| 3160/3160 [00:00<?,

val: Scanning I:\Git\Code-With-Nayeem\Train\_With\_GPU\valid\labels.cache... 312 images, 53 backgrounds, 0 corrupt: 100%|██████████| 312/312 [00:00<?, ?it/s]

Plotting labels to runs\detect\train14\labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...

optimizer: AdamW(lr=0.001667, momentum=0.9) with parameter groups 81 weight(decay=0.0), 88 weight(decay=0.00046875), 87 bias(decay=0.0)

TensorBoard: model graph visualization added ✅

Image sizes 640 train, 640 val

Using 8 dataloader workers

Logging results to runs\detect\train14

Starting training for 20 epochs...

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

1/20 1.64G 1.44 0.8564 1.299 24 640: 100%|██████████| 316/316 [03:22<00:00, 1.56it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.52it/s]

all 312 941 0.849 0.83 0.876 0.475

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

2/20 1.61G 1.419 0.8463 1.283 84 640: 100%|██████████| 316/316 [03:28<00:00, 1.51it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.31it/s]

all 312 941 0.791 0.835 0.862 0.452

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

3/20 1.65G 1.459 0.868 1.306 43 640: 100%|██████████| 316/316 [03:36<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.04it/s]

all 312 941 0.836 0.818 0.866 0.458

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

4/20 1.63G 1.465 0.884 1.314 50 640: 100%|██████████| 316/316 [03:34<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.38it/s]

all 312 941 0.844 0.804 0.859 0.454

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

5/20 1.63G 1.474 0.8843 1.322 41 640: 100%|██████████| 316/316 [03:35<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.39it/s]

all 312 941 0.808 0.82 0.87 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

6/20 1.65G 1.456 0.872 1.308 40 640: 100%|██████████| 316/316 [03:34<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.38it/s]

all 312 941 0.82 0.84 0.867 0.463

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

7/20 1.63G 1.437 0.8587 1.294 45 640: 100%|██████████| 316/316 [03:35<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.36it/s]

all 312 941 0.834 0.834 0.871 0.467

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

8/20 1.63G 1.415 0.856 1.296 29 640: 100%|██████████| 316/316 [03:35<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.16it/s]

all 312 941 0.827 0.84 0.889 0.474

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

9/20 1.62G 1.419 0.8453 1.288 25 640: 100%|██████████| 316/316 [03:38<00:00, 1.45it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.28it/s]

all 312 941 0.818 0.849 0.882 0.472

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

10/20 1.65G 1.395 0.8198 1.262 48 640: 100%|██████████| 316/316 [03:36<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.05it/s]

all 312 941 0.836 0.832 0.888 0.481

Closing dataloader mosaic

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

11/20 1.63G 1.356 0.7211 1.27 21 640: 100%|██████████| 316/316 [03:20<00:00, 1.58it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.35it/s]

all 312 941 0.838 0.836 0.885 0.464

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

12/20 1.65G 1.332 0.7048 1.262 15 640: 100%|██████████| 316/316 [03:34<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.23it/s]

all 312 941 0.844 0.846 0.888 0.474

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

13/20 1.63G 1.305 0.6875 1.244 30 640: 100%|██████████| 316/316 [03:37<00:00, 1.45it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:08<00:00, 1.96it/s]

all 312 941 0.817 0.854 0.885 0.476

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

14/20 1.63G 1.281 0.6746 1.224 47 640: 100%|██████████| 316/316 [03:35<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.41it/s]

all 312 941 0.828 0.852 0.889 0.484

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

15/20 1.62G 1.273 0.6684 1.212 42 640: 100%|██████████| 316/316 [03:36<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.31it/s]

all 312 941 0.849 0.831 0.886 0.485

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

16/20 1.65G 1.243 0.6485 1.191 30 640: 100%|██████████| 316/316 [03:36<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:08<00:00, 2.00it/s]

all 312 941 0.848 0.834 0.882 0.489

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

17/20 1.65G 1.225 0.6371 1.191 30 640: 100%|██████████| 316/316 [03:34<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.05it/s]

all 312 941 0.85 0.831 0.883 0.486

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

18/20 1.65G 1.217 0.6307 1.183 19 640: 100%|██████████| 316/316 [03:36<00:00, 1.46it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.31it/s]

all 312 941 0.841 0.851 0.892 0.49

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

19/20 1.65G 1.193 0.6227 1.175 40 640: 100%|██████████| 316/316 [03:34<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:07<00:00, 2.01it/s]

all 312 941 0.851 0.841 0.889 0.488

Epoch GPU\_mem box\_loss cls\_loss dfl\_loss Instances Size

20/20 1.63G 1.182 0.6167 1.161 25 640: 100%|██████████| 316/316 [03:34<00:00, 1.47it/s]

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.41it/s]

all 312 941 0.86 0.836 0.89 0.493

20 epochs completed in 1.243 hours.

Optimizer stripped from runs\detect\train14\weights\last.pt, 5.5MB

Optimizer stripped from runs\detect\train14\weights\best.pt, 5.5MB

Validating runs\detect\train14\weights\best.pt...

Ultralytics 8.3.4 🚀 Python-3.11.9 torch-2.4.1+cu118 CUDA:0 (NVIDIA GeForce MX350, 2048MiB)

YOLO11n summary (fused): 238 layers, 2,582,542 parameters, 0 gradients, 6.3 GFLOPs

Class Images Instances Box(P R mAP50 mAP50-95): 100%|██████████| 16/16 [00:06<00:00, 2.39it/s]

all 312 941 0.86 0.836 0.89 0.492

cng 197 498 0.891 0.914 0.936 0.547

rikshaw 133 443 0.83 0.758 0.845 0.438

Speed: 0.8ms preprocess, 14.3ms inference, 0.0ms loss, 1.8ms postprocess per image

Results saved to runs\detect\train14

💡 Learn more at <https://docs.ultralytics.com/modes/train>

History

train 6 = 100 peoch with yolo11n.pt

train 8 = with 10 epoch with train 6

train 9 === with 10 epoch with train 8

train 14 === with 20 epoch with train 9