

Object Detection

YOLOv5 model

1. To make sure dataset is loaded correctly. We reached the path we want then use function to load images and their labels. check that the number of images matches the number of labels to avoid any errors. Then display 5 random images and their annotations.

```
import os
import cv2
import matplotlib.pyplot as plt
import random

train_path = r"C:\Users\96650\Downloads\Aquarium Object Detection Dataset\train\images"
test_path = r"C:\Users\96650\Downloads\Aquarium Object Detection Dataset\test"
valid_path = r"C:\Users\96650\Downloads\Aquarium Object Detection Dataset\valid\images"

# Function to load images and labels
def load_dataset(dataset_path):
    images_path = os.path.join(dataset_path, 'images')
    labels_path = os.path.join(dataset_path, 'labels')

    image_files = sorted([os.path.join(images_path, f) for f in os.listdir(images_path) if f.endswith('.jpg') or f.endswith('.png')])
    label_files = sorted([os.path.join(labels_path, f) for f in os.listdir(labels_path) if f.endswith('.txt')])

    # Check that number of images matches the number of labels
    assert len(image_files) == len(label_files), "Number of images and labels do not match!"

    return image_files, label_files

train_images, train_labels = load_dataset(r"C:\Users\96650\Downloads\Aquarium Object Detection Dataset\train")

# Function for displaying 5 random images with annotations
def display_random_images_with_labels(image_files, label_files, num_images=5):
    indices = random.sample(range(len(image_files)), num_images)
    for i in indices:
        img = cv2.imread(image_files[i])
        img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)

        with open(label_files[i], 'r') as f:
            annotations = f.readlines()

        # Print the annotations
        print(f"Annotations for {os.path.basename(image_files[i])}:")
        print(annotations)

        plt.imshow(img)
        plt.title(f"Image: {os.path.basename(image_files[i])}")
        plt.axis('off')
        plt.show()

    # Display 5 random images
    display_random_images_with_labels(train_images, train_labels, num_images=5)
```

✓ 5.3s

Python

Annotations for IMG_2550.jpeg.jpg.rf.d8b525b14483fc250303ce4be356b57c.jpg:
['6 0.6158854166666666 0.6884765625 0.3997395833333333 0.1630859375']

Image: IMG_2550.jpeg.jpg.rf.d8b525b14483fc250303ce4be356b57c.jpg



Annotations for IMG_2515.jpeg.jpg.rf.c7255981abc23128903ac9ece1b4d8b5.jpg:
['4 0.5794270833333334 0.583984375 0.38671875 0.1572265625']

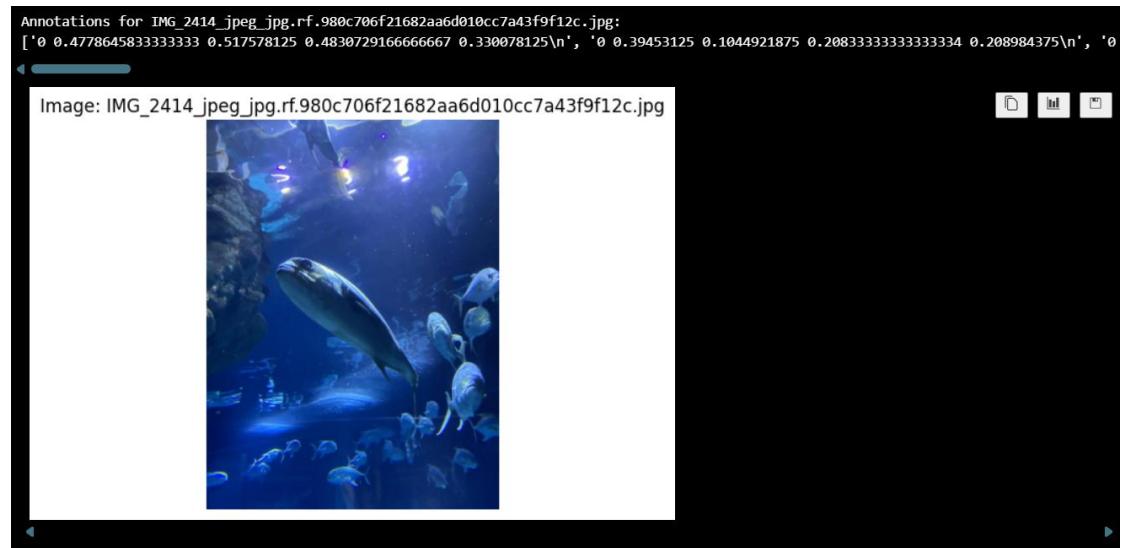
Image: IMG_2515.jpeg.jpg.rf.c7255981abc23128903ac9ece1b4d8b5.jpg



:Annotations for IMG_2414.jpeg.jpg.rf.980c706f21682aa6d010cc7a43f9f12c.jpg

n', '0 \0.330078125 0.4830729166666667 0.517578125 0.4778645833333333 0']
0.39453125 0.1044921875 0.2083333333333334 0.208984375\n', '0 0.87109375
0.716796875 0.16796875 0.185546875\n', '0 0.8216145833333334 0.5654296875

0.1341145833333334 0.1435546875\n', '0 0.9244791666666666 0.541015625
0.09244791666666667 0.1240234375\n', '0 0.9205729166666666 0.4365234375
0.1575520833333334 0.1123046875\n', '0 0.94921875 0.794921875
0.10026041666666667 0.0771484375\n', '0 0.7877604166666666 0.916015625
0.0703125 0.0634765625\n', '0 0.875 0.87109375 0.09765625 0.0615234375\n', '0
0.2838541666666667 0.84765625 0.0768229166666667 0.0517578125\n', '0
0.7434895833333334 0.7861328125 0.07421875 0.0517578125\n', '0
0.6783854166666666 0.7783203125 0.0494791666666664 0.05078125\n', '0
0.48307291666666667 0.9150390625 0.14453125 0.0498046875\n', '0
0.40104166666666667 0.8447265625 0.0924479166666667 0.044921875\n', '0
0.6380208333333334 0.8603515625 0.078125 0.0439453125\n', '0
0.1575520833333334 0.9052734375 0.1145833333333333 0.04296875\n', '0
0.035807291666666664 0.9248046875 0.0716145833333333 0.04296875\n', '0
0.55078125 0.818359375 0.0950520833333333 0.0419921875\n', '0
0.7682291666666666 0.7431640625 0.0494791666666664 0.0400390625\n', '0
0.5130208333333334 0.8681640625 0.0716145833333333 0.0390625\n', '0
0.2044270833333334 0.86328125 0.0846354166666667 0.037109375\n', '0
0.6028645833333334 0.80078125 0.0755208333333333 0.0302734375\n', '0
[0.6966145833333334 0.8505859375 0.04557291666666664 0.0849609375

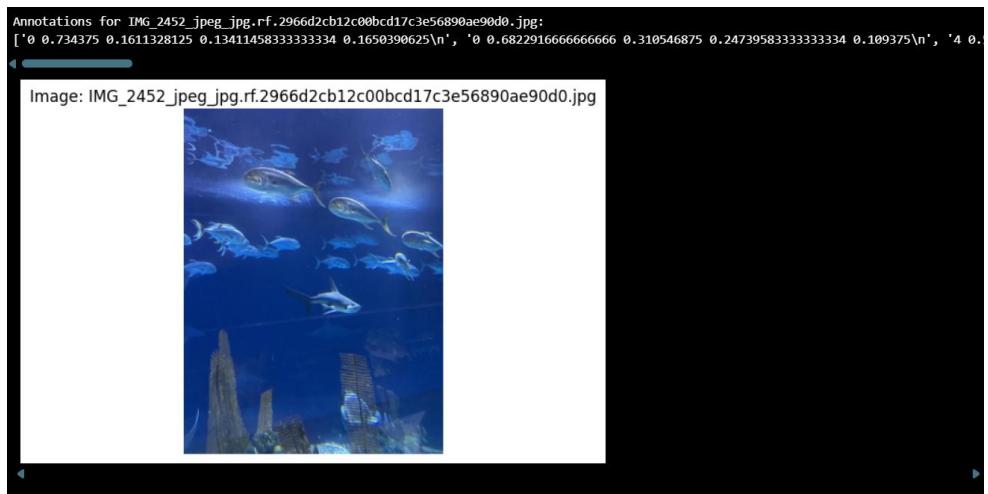


:Annotations for IMG_2360.jpeg.jpg.rf.1f04ed9c5472f410de3263510a5de6dd.jpg
n', '0 \0.203125 0.270833333333333 0.529296875 0.33984375 0']
0.5559895833333334 0.787109375 0.411458333333333 0.1953125\n', '0
0.2018229166666666 0.705078125 0.17578125 0.0947265625\n', '0 0.296875
[0.3369140625 0.2486979166666666 0.08203125



:Annotations for IMG_2452.jpeg.jpg.rf.2966d2cb12c00bcd17c3e56890ae90d0.jpg

n', '0 \0.1650390625 0.1341145833333334 0.1611328125 0.734375 0']
0.6822916666666666 0.310546875 0.2473958333333334 0.109375\n', '4
0.5299479166666666 0.544921875 0.3138020833333333 0.1064453125\n', '0
0.8515625 0.45703125 0.067708333333333 0.0810546875\n', '0 0.1328125
0.3564453125 0.2109375 0.0751953125\n', '0 0.920572916666666 0.3935546875
0.1575520833333334 0.07421875\n', '4 0.58984375 0.6357421875
0.2200520833333334 0.064453125\n', '0 0.0631510416666667 0.46240234375
0.1263020833333334 0.0517578125\n', '0 0.951822916666666 0.4560546875
0.09375 0.05078125\n', '0 0.373697916666667 0.3876953125 0.15234375
0.0439453125\n', '0 0.59765625 0.388671875 0.140625 0.04296875\n', '0
0.729166666666666 0.4423828125 0.1471354166666666 0.0419921875\n', '0
0.846354166666666 0.46484375 0.1302083333333334 0.0419921875\n', '0
0.5703125 0.4462890625 0.1393229166666666 0.041015625\n', '0
0.2096354166666666 0.4140625 0.1588541666666666 0.0400390625\n', '0
0.1927083333333334 0.3935546875 0.1197916666666667 0.0390625\n', '0
0.309895833333333 0.412109375 0.1158854166666667 0.0380859375\n', '0
0.015625 0.3798828125 0.03125 0.037109375\n', '0 0.388020833333333 0.228515625
[0.317708333333333 0.1181640625



2. Installing YOLOv5 and Its Dependencies

```
# Clone the YOLOv5 repository
git clone https://github.com/ultralytics/yolov5.git
%cd yolov5

# Install requirements
pip install -r requirements.txt
```

Python

c:\Users\96650\Downloads\yolov5

.fatal: destination path 'yolov5' already exists and is not an empty directory

Defaulting to user installation because normal site-packages is not writeable

Requirement already satisfied: gitpython>=3.1.30 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (3.1.45) (line 5))

Requirement already satisfied: matplotlib>=3.3 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (3.10.7) (line 6))

Requirement already satisfied: numpy>=1.23.5 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (2.2.6) (line 7))

Requirement already satisfied: opencv-python>=4.1.1 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (4.12.0.88) (line 8))

Requirement already satisfied: pillow>=10.3.0 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (12.0.0) (line 9))

Requirement already satisfied: psutil in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (7.0.0) (line 10))

Requirement already satisfied: PyYAML>=5.3.1 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (6.0.2) (line 11))

Requirement already satisfied: requests>=2.32.2 in

c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (2.32.5) (line 12))

Requirement already satisfied: scipy>=1.4.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(1.16.2) (line 13))

Requirement already satisfied: thop>=0.1.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(line 14)) (0.1.1.post2209072238)

Requirement already satisfied: torch>=1.8.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(line 15)) (2.9.1+cpu)

Requirement already satisfied: torchvision>=0.9.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(line 16)) (0.24.1+cpu)

Requirement already satisfied: tqdm>=4.66.3 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(4.67.1) (line 17))

Requirement already satisfied: ultralytics>=8.2.64 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(8.3.230) (line 18))

Requirement already satisfied: pandas>=1.1.4 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(2.3.2) (line 27))

Requirement already satisfied: seaborn>=0.11.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(0.13.2) (line 28))

Requirement already satisfied: packaging in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(25.0) (line 42))

Requirement already satisfied: setuptools>=70.0.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt
(80.9.0) (line 43))

Requirement already satisfied: urllib3>=2.5.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n

2kfra8p0\localcache\local-packages\python313\site-packages (from -r requirements.txt (2.5.0) (line 51))

Requirement already satisfied: gitdb<5,>=4.0.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from gitpython>=3.1.30->-r requirements.txt (line 5))

Requirement already satisfied: smmap<6,>=3.0.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from gitdb<5,>=4.0.1-(5.0.2) >gitpython>=3.1.30->-r requirements.txt (line 5))

Requirement already satisfied: contourpy>=1.0.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib>=3.3-(1.3.3) >-r requirements.txt (line 6))

Requirement already satisfied: cycler>=0.10 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib>=3.3-(0.12.1) >-r requirements.txt (line 6))

Requirement already satisfied: fonttools>=4.22.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib>=3.3-(4.60.1) >-r requirements.txt (line 6))

Requirement already satisfied: kiwisolver>=1.3.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib>=3.3-(1.4.9) >-r requirements.txt (line 6))

Requirement already satisfied: pyparsing>=3 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib>=3.3-(3.2.5) >-r requirements.txt (line 6))

Requirement already satisfied: python-dateutil>=2.7 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib>=3.3->-r requirements.txt (line 6)) (2.9.0.post0)

Requirement already satisfied: charset_normalizer<4,>=2 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from requests>=2.32.2-(3.4.3) >-r requirements.txt (line 12))

Requirement already satisfied: idna<4,>=2.5 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from requests>=2.32.2-(3.10) >-r requirements.txt (line 12))

Requirement already satisfied: certifi>=2017.4.17 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from requests>=2.32.2-
(2025.8.3) >-r requirements.txt (line 12))

Requirement already satisfied: filelock in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from torch>=1.8.0->-r
(3.19.1) requirements.txt (line 15))

Requirement already satisfied: typing-extensions>=4.10.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from torch>=1.8.0->-r
(4.15.0) requirements.txt (line 15))

Requirement already satisfied: sympy>=1.13.3 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from torch>=1.8.0->-r
(1.14.0) requirements.txt (line 15))

Requirement already satisfied: networkx>=2.5.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from torch>=1.8.0->-r
(3.5) requirements.txt (line 15))

Requirement already satisfied: jinja2 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from torch>=1.8.0->-r
(3.1.6) requirements.txt (line 15))

Requirement already satisfied: fsspec>=0.8.5 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from torch>=1.8.0->-r
(2025.9.0) requirements.txt (line 15))

Requirement already satisfied: colorama in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from tqdm>=4.66.3->-r
(0.4.6) requirements.txt (line 17))

Requirement already satisfied: polars>=0.20.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from
(1.35.2) ultralytics>=8.2.64->-r requirements.txt (line 18))

Requirement already satisfied: ultralytics-thop>=2.0.18 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from
(2.0.18) ultralytics>=8.2.64->-r requirements.txt (line 18))

Requirement already satisfied: pytz>=2020.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n

2kfra8p0\localcache\local-packages\python313\site-packages (from pandas>=1.1.4->r (2025.2) requirements.txt (line 27))

Requirement already satisfied: tzdata>=2022.7 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from pandas>=1.1.4->r (2025.2) requirements.txt (line 27))

Requirement already satisfied: polars-runtime-32==1.35.2 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from polars>=0.20.0-(1.35.2) >ultralytics>=8.2.64->r requirements.txt (line 18))

Requirement already satisfied: six>=1.5 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from python-(1.17.0) dateutil>=2.7->matplotlib>=3.3->r requirements.txt (line 6))

Requirement already satisfied: mpmath<1.4,>=1.1.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from sympy>=1.13.3-(1.3.0) >torch>=1.8.0->r requirements.txt (line 15))

Requirement already satisfied: MarkupSafe>=2.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from jinja2-(3.0.2) >torch>=1.8.0->r requirements.txt (line 15))

```
c:\Users\96650\Downloads\yolov5
fatal: destination path 'yolov5' already exists and is not an empty directory.
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: gitpython>=3.1.30 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2k
Requirement already satisfied: matplotlib>=3.3 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfr
Requirement already satisfied: numpy>=1.23.5 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8
Requirement already satisfied: opencv-python>=4.1.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5
Requirement already satisfied: pillow>=10.3.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra1
Requirement already satisfied: psutil in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\loc
Requirement already satisfied: PyYAML>=5.3.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8
Requirement already satisfied: requests>=2.32.2 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfr
Requirement already satisfied: scipy>=1.4.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p
Requirement already satisfied: thop>=0.1.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0
Requirement already satisfied: torch>=1.8.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p
Requirement already satisfied: torchvision>=0.9.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2
Requirement already satisfied: tqdm>=4.66.3 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p
Requirement already satisfied: ultralytics>=8.2.64 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
Requirement already satisfied: pandas>=1.1.4 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8
Requirement already satisfied: seaborn>=0.11.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfr
Requirement already satisfied: packaging in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\1
Requirement already satisfied: setuptools>=70.0.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2
Requirement already satisfied: urllib3>=2.5.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra
Requirement already satisfied: gitdb<5,>=4.0.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfr
Requirement already satisfied: smmap<6,>=3.0.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfr
Requirement already satisfied: contourpy>=1.0.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfr
Requirement already satisfied: cycler>=0.10 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p
Requirement already satisfied: fonttools>=4.22.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2k
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2k
Requirement already satisfied: pyparsing>=3 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p
```

3. Install matplotlib

```
# Install matplotlib to print results of training  
pip install matplotlib
```

Python

```
Defaulting to user installation because normal site-packages is not writeable  
Requirement already satisfied: matplotlib in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\loc  
Requirement already satisfied: contourpy>=1.0.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0  
Requirement already satisfied: cycler>=0.10 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\lo  
Requirement already satisfied: fonttools>=4.22.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0  
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0  
Requirement already satisfied: numpy>=1.23 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\loc  
Requirement already satisfied: packaging>=20.0 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0  
Requirement already satisfied: pillow>=8 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\local  
Requirement already satisfied: pyParsing>=3 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\loc  
Requirement already satisfied: python-dateutil>=2.7 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0  
Requirement already satisfied: six>=1.5 in c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra8p0\local  
Note: you may need to restart the kernel to use updated packages.
```

Defaulting to user installation because normal site-packages is not writeable

Requirement already satisfied: matplotlib in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
(3.10.7) 2kfra8p0\localcache\local-packages\python313\site-packages

Requirement already satisfied: contourpy>=1.0.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
(1.3.3) 2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)

Requirement already satisfied: cycler>=0.10 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)
(0.12.1)

Requirement already satisfied: fonttools>=4.22.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)
(4.60.1)

Requirement already satisfied: kiwisolver>=1.3.1 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
(1.4.9) 2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)

Requirement already satisfied: numpy>=1.23 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
(2.2.6) 2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)

Requirement already satisfied: packaging>=20.0 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
(25.0) 2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)

Requirement already satisfied: pillow>=8 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)
(12.0.0)

Requirement already satisfied: pyparsing>=3 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
(3.2.5) 2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)

Requirement already satisfied: python-dateutil>=2.7 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from matplotlib)
(2.9.0.post0)

Requirement already satisfied: six>=1.5 in
c:\users\96650\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n
2kfra8p0\localcache\local-packages\python313\site-packages (from python-
(1.17.0) dateutil>=2.7->matplotlib)

.Note: you may need to restart the kernel to use updated packages

4. Training YOLOv5 Model

```
# Train YOLOv5
!python train.py --img 640 --batch 16 --epochs 15 --data "C:\Users\96650\Downloads\Aquarium Object Detection Dataset\data.yaml" --weights
```

Python

Train YOLOv5

```
!python train.py --img 640 --batch 16 --epochs 15 --data
"C:\Users\96650\Downloads\Aquarium Object Detection Dataset\data.yaml" --weights
yolov5s.pt --cache
```

```
train: weights=yolov5s.pt, cfg=, data=C:\Users\96650\Downloads\Aquarium Object Detection Dataset\data.yaml, hyp=data\hyp\hyp.scratch-low.yaml
github: YOLOv5 is out of date by 1 commit. Use 'git pull' or 'git clone https://github.com/ultralytics/yolov5' to update.
YOLOv5 v7.0-449-g0d25ae7c Python-3.13.9 torch-2.9.1+cpu CPU

hyperparameters: 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=0.45, class=0.001, nc=80, anchors='[10, 14, 23, 27, 37, 54, 81, 82, 135, 158, 352, 356, 462, 481, 609, 621, 657, 739, 750, 763, 768, 772, 777, 782, 786, 791, 796, 801, 806, 811, 816, 821, 826, 831, 836, 841, 846, 851, 856, 861, 866, 871, 876, 881, 886, 891, 896, 901, 906, 911, 916, 921, 926, 931, 936, 941, 946, 951, 956, 961, 966, 971, 976, 981, 986, 991, 996]', comet='run "pip install comet_ml" to automatically track and visualize YOLOv5 runs in Comet', tensorboard='Start with "tensorboard --logdir runs\train", view at http://localhost:6006/'

Overriding model.yaml nc=80 with nc=7

      from    n   params   module           arguments
  0     -1    1       3520  models.common.Conv  [3, 32, 6, 2, 2]
  1     -1    1      18560  models.common.Conv  [32, 64, 3, 2]
  2     -1    1      18816  models.common.C3   [64, 64, 1]
  3     -1    1      73984  models.common.Conv  [64, 128, 3, 2]
  4     -1    2      115712  models.common.C3  [128, 128, 2]
  5     -1    1      295424  models.common.Conv  [128, 256, 3, 2]
  6     -1    3      625152  models.common.C3  [256, 256, 3]
  7     -1    1     1180672  models.common.Conv  [256, 512, 3, 2]
  8     -1    1     1182720  models.common.C3  [512, 512, 1]
  9     -1    1      656896  models.common.SPPF  [512, 512, 5]
 10     -1    1     131584  models.common.Conv  [512, 256, 1, 1]
 11     -1    1          0  torch.nn.modules.upsampling.Upsample  [None, 2, 'nearest']
 12    [-1, 6]    1          0  models.common.Concat  [1]
 13     -1    1      361984  models.common.C3  [512, 256, 1, False]
 14     -1    1      33024  models.common.Conv  [256, 128, 1, 1]
...
shark        127       57     0.47     0.474     0.449     0.29
starfish      127       27       1         0     0.138     0.0956
stingray      127       33     0.149     0.00902     0.206     0.127
Results saved to runs\train\exp3
Output was truncated. View as a scrollable element or open in a text editor. Adjust cell output settings..
```

mtrain: [0mweights=yolov5s.pt, cfg=, 1]m[34]□
data=C:\Users\96650\Downloads\Aquarium Object Detection Dataset\data.yaml,
hyp=data\hyp\hyp.scratch-low.yaml, epochs=15, batch_size=16, imgsz=640,
rect=False, resume=False, nosave=False, noval=False, noautoanchor=False,
noplots=False, evolve=None, evolve_population=data\hyp, resume_evolve=None,
bucket=, cache=ram, image_weights=False, device=, multi_scale=False,

```
single_cls=False, optimizer=SGD, sync_bn=False, workers=8, project=runs\train,
name=exp, exist_ok=False, quad=False, cos_lr=False, label_smoothing=0.0,
patience=100, freeze=[0], save_period=-1, seed=0, local_rank=-1, entity=None,
upload_dataset=False, bbox_interval=-1, artifact_alias=latest, ndjson_console=False,
ndjson_file=False
```

mgithub: [0m YOLOv5 is out of date by 1 commit. Use 'git pull' or 'git clone 1'] [34] .<https://github.com/ultralytics/yolov5> to update

YOLOv5 v7.0-449-g0d25ae7c Python-3.13.9 torch-2.9.1+cpu CPU

mhyperparameters: [0mlr0=0.01, lrf=0.01, momentum=0.937, 1] [34] weight_decay=0.0005, warmup_epochs=3.0, warmup_momentum=0.8, warmup_bias_lr=0.1, box=0.05, cls=0.5, cls_pw=1.0, obj=1.0, obj_pw=1.0, iou_t=0.2, anchor_t=4.0, fl_gamma=0.0, 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, mosaic=1.0, mixup=0.0, copy_paste=0.0

mComet: [0mrun 'pip install comet_ml' to automatically track and visualize 1] [34] YOLOv5 runs in Comet

mTensorBoard: [0mStart with 'tensorboard --logdir runs\train', view at 1] [34] /<http://localhost:6006>

Overriding model.yaml nc=80 with nc=7

| from n | params | module | arguments | |
|--------------------------------------|-----------|----------------------|-------------|---------|
| [2 ,2 ,6 ,32 ,3] | | models.common.Conv | 3520 | 1 1- 0 |
| [2 ,3 ,64 ,32] | | models.common.Conv | 18560 | 1 1- 1 |
| [1 ,64 ,64] | | models.common.C3 | 18816 | 1 1- 2 |
| [2 ,3 ,128 ,64] | | models.common.Conv | 73984 | 1 1- 3 |
| [2 ,128 ,128] | | models.common.C3 | 115712 | 2 1- 4 |
| [2 ,3 ,256 ,128] | | models.common.Conv | 295424 | 1 1- 5 |
| [3 ,256 ,256] | | models.common.C3 | 625152 | 3 1- 6 |
| [2 ,3 ,512 ,256] | | models.common.Conv | 1180672 | 1 1- 7 |
| [1 ,512 ,512] | | models.common.C3 | 1182720 | 1 1- 8 |
| [5 ,512 ,512] | | models.common.SPPF | 656896 | 1 1- 9 |
| [1 ,1 ,256 ,512] | | models.common.Conv | 131584 | 1 1- 10 |
| torch.nn.modules.upsampling.Upsample | [None, 2, | | 0 1 1- | 11 |
| 'nearest' | | | | |
| [1] | | models.common.Concat | 0 1 [6 ,1-] | 12 |

| | | | | |
|--|---------------------------|---------|----------------|----|
| models.common.C3 | [512, 256, 1, False] | 361984 | 1 1- | 13 |
| [1 ,1 ,128 ,256] | models.common.Conv | 33024 | 1 1- | 14 |
| torch.nn.modules.upsampling.Upsample | [None, 2, 0 'nearest'] | | 1 1- | 15 |
| [1] | models.common.Concat | 0 | 1 [4 ,1-] | 16 |
| models.common.C3 | [256, 128, 1, False] | 90880 | 1 1- | 17 |
| [2 ,3 ,128 ,128] | models.common.Conv | 147712 | 1 1- | 18 |
| [1] | models.common.Concat | 0 | 1 [14 ,1-] | 19 |
| models.common.C3 | [256, 256, 1, False] | 296448 | 1 1- | 20 |
| [2 ,3 ,256 ,256] | models.common.Conv | 590336 | 1 1- | 21 |
| [1] | models.common.Concat | 0 | 1 [10 ,1-] | 22 |
| models.common.C3 | [512, 512, 1, False] | 1182720 | 1 1- | 23 |
| ,30 ,16 ,13 ,10]] ,7] | models.yolo.Detect | 32364 | 1 [23 ,20 ,17] | 24 |
| [[512 ,256 ,128] ,[[326 ,373 ,198 ,156 ,90 ,116] ,[119 ,59 ,45 ,62 ,61 ,30] ,[23 ,33 | | | | |

Model summary: 214 layers, 7038508 parameters, 7038508 gradients, 16.0 GFLOPs

Transferred 343/349 items from yolov5s.pt

moptimizer:[0m SGD(lr=0.01) with parameter groups 57 weight(decay=0.0), 1]m[34]
60 weight(decay=0.0005), 60 bias

mtrain: [0mScanning C:\Users\96650\Downloads\Aquarium Object 1]m[34]
Detection Dataset\train\labels.cache... 448 images, 1 backgrounds, 0 corrupt:
[100%] [██████████] 448/448 [00:00<?, ?it/s]

mtrain: [0mScanning C:\Users\96650\Downloads\Aquarium Object 1]m[34]
Detection Dataset\train\labels.cache... 448 images, 1 backgrounds, 0 corrupt:
[100%] [██████████] 448/448 [00:00<?, ?it/s]

[it/s? ,?>00:00] 448/0 | %0

mtrain: [0mCaching images (0.0GB ram): 5%| 23/448 [00:00<00:01, 1]m[34]
[219.91it/s

mtrain: [0mCaching images (0.0GB ram): 12%| 56/448 [00:00<00:01, 1]m[34]
[275.69it/s

mtrain: [0mCaching images (0.1GB ram): 19%| 84/448 1]m[34]
[[00:00<00:01, 274.43it/s

mtrain: 0mCaching images (0.1GB ram): 26% [██████] | 118/448 1]m34]□
[[00:00<00:01, 294.33it/s

mtrain: 0mCaching images (0.1GB ram): 33% [██████] | 149/448 1]m34]□
[[00:00<00:01, 298.47it/s

mtrain: 0mCaching images (0.2GB ram): 40% [██████] | 179/448 1]m34]□
[[00:00<00:00, 296.05it/s

mtrain: 0mCaching images (0.2GB ram): 48% [██████] | 213/448 1]m34]□
[[00:00<00:00, 308.68it/s

mtrain: 0mCaching images (0.2GB ram): 54% [██████] | 244/448 1]m34]□
[[00:00<00:00, 288.37it/s

mtrain: 0mCaching images (0.2GB ram): 62% [██████] | 277/448 1]m34]□
[[00:00<00:00, 300.25it/s

mtrain: 0mCaching images (0.3GB ram): 69% [██████] | 308/448 1]m34]□
[[00:01<00:00, 299.27it/s

mtrain: 0mCaching images (0.3GB ram): 76% [██████] | 339/448 1]m34]□
[[00:01<00:00, 289.35it/s

mtrain: 0mCaching images (0.3GB ram): 82% [██████] | 369/448 1]m34]□
[[00:01<00:00, 281.19it/s

mtrain: 0mCaching images (0.3GB ram): 90% [██████] | 403/448 1]m34]□
[[00:01<00:00, 281.55it/s

mtrain: 0mCaching images (0.4GB ram): 96% [██████] | 432/448 1]m34]□
[[00:01<00:00, 281.57it/s

mtrain: 0mCaching images (0.4GB ram): 100% [██████] | 448/448 1]m34]□
[[00:01<00:00, 290.77it/s

mval: 0mScanning C:\Users\96650\Downloads\Aquarium Object Detection 1]m34]□
Dataset\valid\labels.cache... 127 images, 0 backgrounds, 0 corrupt:
[100%] ██████████ | 127/127 [00:00<?, ?it/s

mval: 0mScanning C:\Users\96650\Downloads\Aquarium Object Detection 1]m34]□
Dataset\valid\labels.cache... 127 images, 0 backgrounds, 0 corrupt:
[100%] ██████████ | 127/127 [00:00<?, ?it/s

[it/s? ,?>00:00] 127/0 | %0

mval: 0mCaching images (0.0GB ram): 14% [██] | 18/127 [00:00<00:00, 1]m34]□
[164.50it/s

mval: 0mCaching images (0.0GB ram): 33% [██] | 42/127 [00:00<00:00, 1]m34]□
[194.58it/s

```
mval: 0mCaching images (0.1GB ram): 54%|██████████| 68/127 1]m34]□  
[[00:00<00:00, 215.11it/s  
  
mval: 0mCaching images (0.1GB ram): 71%|██████████| 90/127 1]m34]□  
[[00:00<00:00, 211.70it/s  
  
mval: 0mCaching images (0.1GB ram): 88%|██████████| 112/127 1]m34]□  
[[00:00<00:00, 134.31it/s  
  
mval: 0mCaching images (0.1GB ram): 100%|██████████| 127/127 1]m34]□  
[[00:00<00:00, 169.76it/s
```

mAutoAnchor: 0m5.17 anchors/target, 0.999 Best Possible Recall (BPR). 1]m34]□
Current anchors are a good fit to dataset

...Plotting labels to runs\train\exp3\labels.jpg

```
c:\Users\96650\Downloads\yolov5\train.py:357: FutureWarning:  
`torch.cuda.amp.GradScaler(args...)` is deprecated. Please use  
. `torch.amp.GradScaler('cuda', args...)` instead
```

```
scaler = torch.cuda.amp.GradScaler(enabled=amp)
```

Image sizes 640 train, 640 val

Using 8 dataloader workers

```
m0]Logging results to 1mruns\train\exp3
```

...Starting training for 15 epochs

| Epoch | GPU_mem | box_loss | obj_loss | cls_loss | Instances | Size |
|-------|---------|----------|----------|----------|-----------|------|
|-------|---------|----------|----------|----------|-----------|------|

```
[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 |      |%0  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead  
:with torch.cuda.amp.autocast(amp)
```

| | | | | | | | | |
|------------------|--------|---------|---------|-----|------|----|--------|------|
| G | 0.1229 | 0.06296 | 0.06532 | 216 | 640: | 0% | 0/28 0 | 14/0 |
| [00:24<?, ?it/s] | | | | | | | | |

| | | | | | | | | |
|---|--------|---------|---------|-----|------|----|--------|------|
| G | 0.1229 | 0.06296 | 0.06532 | 216 | 640: | 4% | 1/28 0 | 14/0 |
| [00:28<13:02, 28.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use . `torch.amp.autocast('cuda', args...)` instead :with torch.cuda.amp.autocast(amp) | | | | | | | | |

G 0.1229 0.06027 0.06532 195 640: 4% [■ | 1/28 0 14/0
[00:40<13:02, 28.97s/it]

G 0.1229 0.06027 0.06532 195 640: 7% [■ | 2/28 0 14/0
[00:40<08:07, 18.74s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1221 0.05842 0.06542 153 640: 7% [■ | 2/28 0 14/0
[00:50<08:07, 18.74s/it]

G 0.1221 0.05842 0.06542 153 640: 11% [■ | 3/28 0 14/0
[00:50<06:08, 14.74s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1213 0.05462 0.06499 97 640: 11% [■ | 3/28 0 14/0
[01:00<06:08, 14.74s/it]

G 0.1213 0.05462 0.06499 97 640: 14% [■ | 4/28 0 14/0
[01:00<05:09, 12.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.121 0.05956 0.06478 255 640: 14% [■ | 4/28 0 14/0
[01:10<05:09, 12.90s/it]

G 0.121 0.05956 0.06478 255 640: 18% [■ | 5/28 0 14/0
[01:10<04:30, 11.78s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1209 0.06242 0.06443 248 640: 18% [■ | 5/28 0 14/0
[01:24<04:30, 11.78s/it]

G 0.1209 0.06242 0.06443 248 640: 21% [■ | 6/28 0 14/0
[01:24<04:33, 12.44s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.121 0.06276 0.06433 223 640: 21% [██████] | 6/28 0 14/0  
[01:38<04:33, 12.44s/it]
```

```
G 0.121 0.06276 0.06433 223 640: 25% [██████] | 7/28 0 14/0  
[01:38<04:32, 13.00s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.121 0.06373 0.06418 236 640: 25% [██████] | 7/28 0 14/0  
[01:52<04:32, 13.00s/it]
```

```
G 0.121 0.06373 0.06418 236 640: 29% [██████] | 8/28 0 14/0  
[01:52<04:26, 13.32s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.1205 0.06611 0.06406 248 640: 29% [██████] | 8/28 0 14/0  
[02:06<04:26, 13.32s/it]
```

```
G 0.1205 0.06611 0.06406 248 640: 32% [██████] | 9/28 0 14/0  
[02:06<04:16, 13.52s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.1201 0.06457 0.06364 131 640: 32% [██████] | 9/28 0 14/0  
[02:20<04:16, 13.52s/it]
```

```
G 0.1201 0.06457 0.06364 131 640: 36% [██████] | 10/28 0 14/0  
[02:20<04:05, 13.66s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.1197 0.06511 0.06345 200 640: 36% [██████] | 10/28 0 14/0  
[02:34<04:05, 13.66s/it]
```

G 0.1197 0.06511 0.06345 200 640: 39% [██████] | 11/28 0 14/0
[02:34<03:53, 13.74s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1192 0.06442 0.06329 144 640: 39% [██████] | 11/28 0 14/0
[02:48<03:53, 13.74s/it]

G 0.1192 0.06442 0.06329 144 640: 43% [██████] | 12/28 0 14/0
[02:48<03:40, 13.80s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1188 0.06467 0.06307 183 640: 43% [██████] | 12/28 0 14/0
[03:01<03:40, 13.80s/it]

G 0.1188 0.06467 0.06307 183 640: 46% [██████] | 13/28 0 14/0
[03:01<03:27, 13.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1185 0.06558 0.06297 227 640: 46% [██████] | 13/28 0 14/0
[03:16<03:27, 13.83s/it]

G 0.1185 0.06558 0.06297 227 640: 50% [██████] | 14/28 0 14/0
[03:16<03:15, 13.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1181 0.06739 0.0628 272 640: 50% [██████] | 14/28 0 14/0
[03:30<03:15, 13.97s/it]

G 0.1181 0.06739 0.0628 272 640: 54% [██████] | 15/28 0 14/0
[03:30<03:02, 14.00s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1176 0.06873 0.0625 239 640: 54% [REDACTED] | 15/28 0 14/0
[03:44<03:02, 14.00s/it]

G 0.1176 0.06873 0.0625 239 640: 57% [REDACTED] | 16/28 0 14/0
[03:44<02:47, 13.98s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1172 0.06805 0.06241 150 640: 57% [REDACTED] | 16/28 0 14/0
[03:58<02:47, 13.98s/it]

G 0.1172 0.06805 0.06241 150 640: 61% [REDACTED] | 17/28 0 14/0
[03:58<02:33, 13.96s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1167 0.06755 0.06222 131 640: 61% [REDACTED] | 17/28 0 14/0
[04:12<02:33, 13.96s/it]

G 0.1167 0.06755 0.06222 131 640: 64% [REDACTED] | 0 14/0
18/28 [04:12<02:19, 13.92s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1162 0.06721 0.06208 146 640: 64% [REDACTED] | 0 14/0
18/28 [04:25<02:19, 13.92s/it]

G 0.1162 0.06721 0.06208 146 640: 68% [REDACTED] | 0 14/0
19/28 [04:25<02:05, 13.92s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1159 0.06781 0.06178 230 640: 68% [REDACTED] | 0 14/0
19/28 [04:39<02:05, 13.92s/it]

G 0.1159 0.06781 0.06178 230 640: 71% [REDACTED] | 0 14/0
20/28 [04:39<01:51, 13.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1156 0.06846 0.06156 211 640: 71% [██████] | 0 14/0
20/28 [04:53<01:51, 13.89s/it]

G 0.1156 0.06846 0.06156 211 640: 75% [██████] | 0 14/0
21/28 [04:53<01:37, 13.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1153 0.06851 0.06136 193 640: 75% [██████] | 0 14/0
21/28 [05:07<01:37, 13.87s/it]

G 0.1153 0.06851 0.06136 193 640: 79% [██████] | 0 14/0
22/28 [05:07<01:23, 13.92s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1151 0.0686 0.06116 226 640: 79% [██████] | 0 14/0
22/28 [05:21<01:23, 13.92s/it]

G 0.1151 0.0686 0.06116 226 640: 82% [██████] | 0 14/0
23/28 [05:21<01:09, 13.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1147 0.06815 0.061 135 640: 82% [██████] | 0 14/0
23/28 [05:35<01:09, 13.90s/it]

G 0.1147 0.06815 0.061 135 640: 86% [██████] | 0 14/0
24/28 [05:35<00:55, 13.88s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1144 0.06826 0.06074 180 640: 86%|██████████| 0 14/0
24/28 [05:49<00:55, 13.88s/it]

G 0.1144 0.06826 0.06074 180 640: 89%|██████████| 0 14/0
25/28 [05:49<00:41, 13.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1141 0.0693 0.06047 277 640: 89%|██████████| 0 14/0
25/28 [06:03<00:41, 13.90s/it]

G 0.1141 0.0693 0.06047 277 640: 93%|██████████| 0 14/0
26/28 [06:03<00:27, 13.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1137 0.06939 0.06028 198 640: 93%|██████████| 0 14/0
26/28 [06:17<00:27, 13.90s/it]

G 0.1137 0.06939 0.06028 198 640: 96%|██████████| 0 14/0
27/28 [06:17<00:13, 13.96s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.1132 0.06923 0.06009 135 640: 96%|██████████| 0 14/0
27/28 [15:52<00:13, 13.96s/it]

G 0.1132 0.06923 0.06009 135 640: 100%|██████████| 0 14/0
28/28 [15:52<00:00, 182.35s/it]

G 0.1132 0.06923 0.06009 135 640: 100%|██████████| 0 14/0
28/28 [15:52<00:00, 34.02s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95: 25%|████|
1/4 [00:13<00:39, 13.04s/it]

```
Class  Images Instances      P      R    mAP50  mAP50-95:  
50%|██████████| 2/4 [00:20<00:19, 9.94s/it]  
  
Class  Images Instances      P      R    mAP50  mAP50-95:  
75%|██████████| 3/4 [00:27<00:08, 8.53s/it]  
  
Class  Images Instances      P      R    mAP50  mAP50-95:  
100%|██████████| 4/4 [00:34<00:00, 7.76s/it]  
  
Class  Images Instances      P      R    mAP50  mAP50-95:  
100%|██████████| 4/4 [00:34<00:00, 8.56s/it]  
  
all    127    909  0.00533   0.278  0.00794  0.00178
```

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

```
[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 |      |%0  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G  0.1015  0.1044  0.05433   258    640: 0%|      | 0/28 [00:10<?, 0      14/1  
?it/s]
```

```
G  0.1015  0.1044  0.05433   258    640: 4%|      | 1/28 0      14/1  
[00:10<04:48, 10.68s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G  0.09947  0.09768  0.05444   204    640: 4%|      | 1/28 0      14/1  
[00:20<04:48, 10.68s/it]
```

```
G  0.09947  0.09768  0.05444   204    640: 7%|      | 2/28 0      14/1  
[00:20<04:31, 10.44s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G  0.09993  0.08788  0.05333   159    640: 7%|      | 2/28 0      14/1  
[00:30<04:31, 10.44s/it]
```

```
G  0.09993  0.08788  0.05333   159    640: 11%|      | 3/28 0      14/1  
[00:30<04:15, 10.23s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
```

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09977 0.08766 0.05287 210 640: 11% [■] | 3/28 0 14/1
[00:40<04:15, 10.23s/it]

G 0.09977 0.08766 0.05287 210 640: 14% [■] | 4/28 0 14/1
[00:40<03:57, 9.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.1002 0.08534 0.05264 213 640: 14% [■] | 4/28 0 14/1
[00:49<03:57, 9.91s/it]

G 0.1002 0.08534 0.05264 213 640: 18% [■] | 5/28 0 14/1
[00:49<03:44, 9.76s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09867 0.0849 0.05282 178 640: 18% [■] | 5/28 0 14/1
[00:59<03:44, 9.76s/it]

G 0.09867 0.0849 0.05282 178 640: 21% [■] | 6/28 0 14/1
[00:59<03:33, 9.69s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09861 0.0826 0.05259 218 640: 21% [■] | 6/28 0 14/1
[01:08<03:33, 9.69s/it]

G 0.09861 0.0826 0.05259 218 640: 25% [■] | 7/28 0 14/1
[01:08<03:22, 9.64s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09781 0.08242 0.05242 187 640: 25% [██████] | 7/28 0 14/1
[01:18<03:22, 9.64s/it]

G 0.09781 0.08242 0.05242 187 640: 29% [██████] | 8/28 0 14/1
[01:18<03:12, 9.61s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09772 0.07996 0.0525 143 640: 29% [██████] | 8/28 0 14/1
[01:28<03:12, 9.61s/it]

G 0.09772 0.07996 0.0525 143 640: 32% [██████] | 9/28 0 14/1
[01:28<03:02, 9.61s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09744 0.08004 0.05235 205 640: 32% [██████] | 9/28 0 14/1
[01:37<03:02, 9.61s/it]

G 0.09744 0.08004 0.05235 205 640: 36% [██████] | 10/28 0 14/1
[01:37<02:51, 9.52s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09702 0.07987 0.05226 199 640: 36% [██████] | 10/28 0 14/1
[01:47<02:51, 9.52s/it]

G 0.09702 0.07987 0.05226 199 640: 39% [██████] | 11/28 0 14/1
[01:47<02:42, 9.55s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09738 0.08144 0.05182 328 640: 39% [██████] | 11/28 0 14/1
[01:56<02:42, 9.55s/it]

G 0.09738 0.08144 0.05182 328 640: 43% [██████] | 12/28 0 14/1
[01:56<02:33, 9.57s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09738 0.08178 0.05166 248 640: 43% [02:06<02:33, 9.57s/it] | 12/28 0 14/1

G 0.09738 0.08178 0.05166 248 640: 46% [02:06<02:23, 9.55s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use .`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09652 0.08021 0.05156 125 640: 46% [02:16<02:23, 9.55s/it] | 13/28 0 14/1

G 0.09652 0.08021 0.05156 125 640: 50% [02:16<02:15, 9.65s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use .`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0959 0.07947 0.05114 154 640: 50% [02:29<02:15, 9.65s/it] | 14/28 0 14/1

G 0.0959 0.07947 0.05114 154 640: 54% [02:29<02:20, 10.83s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use .`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09559 0.07873 0.0509 159 640: 54% [1:03:47<02:20, 10.83s/it] | 15/28 0 14/1

G 0.09559 0.07873 0.0509 159 640: 57% [1:03:47<3:42:56, 1114.73s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use .`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09524 0.07926 0.05078 212 640: 57% [1:04:02<3:42:56, 1114.73s/it] | 0 14/1

G 0.09524 0.07926 0.05078 212 640: 61% [██████] | 0 14/1
17/28 [1:04:02<2:23:44, 784.07s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09486 0.0807 0.05047 293 640: 61% [██████] | 17/28 0 14/1
[1:04:17<2:23:44, 784.07s/it]

G 0.09486 0.0807 0.05047 293 640: 64% [██████] | 0 14/1
18/28 [1:04:17<1:32:08, 552.84s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09404 0.08053 0.0501 182 640: 64% [██████] | 0 14/1
18/28 [1:04:28<1:32:08, 552.84s/it]

G 0.09404 0.08053 0.0501 182 640: 68% [██████] | 0 14/1
19/28 [1:04:28<58:31, 390.12s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09363 0.07942 0.04979 153 640: 68% [██████] | 0 14/1
19/28 [1:04:39<58:31, 390.12s/it]

G 0.09363 0.07942 0.04979 153 640: 71% [██████] | 0 14/1
20/28 [1:04:39<36:49, 276.18s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09328 0.07959 0.04947 252 640: 71% [██████] | 0 14/1
20/28 [1:04:49<36:49, 276.18s/it]

G 0.09328 0.07959 0.04947 252 640: 75% [██████] | 0 14/1
21/28 [1:04:49<22:54, 196.30s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09304 0.0793 0.04918 192 640: 75% [██████] | 0 14/1
21/28 [1:04:58<22:54, 196.30s/it]

G 0.09304 0.0793 0.04918 192 640: 79% [██████] | 0 14/1
22/28 [1:04:58<14:01, 140.26s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09277 0.07863 0.04885 153 640: 79% [██████] | 0 14/1
22/28 [1:05:08<14:01, 140.26s/it]

G 0.09277 0.07863 0.04885 153 640: 82% [██████] | 0 14/1
23/28 [1:05:08<08:25, 101.12s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09224 0.07788 0.04869 145 640: 82% [██████] | 0 14/1
23/28 [1:05:18<08:25, 101.12s/it]

G 0.09224 0.07788 0.04869 145 640: 86% [██████] | 0 14/1
24/28 [1:05:18<04:54, 73.60s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09161 0.07741 0.0483 163 640: 86% [██████] | 0 14/1
24/28 [1:05:27<04:54, 73.60s/it]

G 0.09161 0.07741 0.0483 163 640: 89% [██████] | 0 14/1
25/28 [1:05:27<02:43, 54.35s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09112 0.0771 0.04827 170 640: 89% [██████] | 0 14/1
25/28 [1:05:37<02:43, 54.35s/it]

G 0.09112 0.0771 0.04827 170 640: 93% [██████] | 0 14/1
26/28 [1:05:37<01:21, 40.90s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.09095 0.0769 0.0483 200 640: 93%|██████████| 0 14/1
26/28 [1:05:46<01:21, 40.90s/it]

G 0.09095 0.0769 0.0483 200 640: 96%|██████████| 0 14/1
27/28 [1:05:46<00:31, 31.52s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.09071 0.07712 0.04811 222 640: 96%|██████████| 0 14/1
27/28 [1:05:56<00:31, 31.52s/it]

G 0.09071 0.07712 0.04811 222 640: 100%|██████████| 0 14/1
28/28 [1:05:56<00:00, 24.90s/it]

G 0.09071 0.07712 0.04811 222 640: 100%|██████████| 0 14/1
28/28 [1:05:56<00:00, 141.29s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95: 25%|████ |
1/4 [00:10<00:30, 10.17s/it]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95:
50%|████ | 2/4 [00:17<00:16, 8.38s/it]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95:
75%|████ | 3/4 [00:24<00:07, 7.77s/it]WARNING NMS time limit 2.050s
exceeded

Class Images Instances P R mAP50 mAP50-95:
100%|████ | 4/4 [00:31<00:00, 7.61s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|████ | 4/4 [00:31<00:00, 7.93s/it]

all 127 909 0.0171 0.0784 0.0115 0.00389

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | %0

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0849 0.06211 0.04283 169 640: 0%| 0/28 0 14/2

[00:09<?, ?it/s]

G 0.0849 0.06211 0.04283 169 640: 4%| 1/28 0 14/2

[00:09<04:21, 9.70s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0799 0.07304 0.04244 259 640: 4%| 1/28 0 14/2

[00:19<04:21, 9.70s/it]

G 0.0799 0.07304 0.04244 259 640: 7%| 2/28 0 14/2

[00:19<04:12, 9.71s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07766 0.0691 0.04251 147 640: 7%| 2/28 0 14/2

[00:28<04:12, 9.71s/it]

G 0.07766 0.0691 0.04251 147 640: 11%| 3/28 0 14/2

[00:28<03:57, 9.49s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07786 0.07032 0.04107 192 640: 11%| 3/28 0 14/2

[00:37<03:57, 9.49s/it]

G 0.07786 0.07032 0.04107 192 640: 14% [■] | 4/28 0 14/2
[00:37<03:45, 9.40s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07869 0.07051 0.04181 187 640: 14% [■] | 4/28 0 14/2
[59:11<03:45, 9.40s/it]

G 0.07869 0.07051 0.04181 187 640: 18% [■] | 5/28 0 14/2
[59:11<8:07:59, 1273.00s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07992 0.07051 0.04142 210 640: 18% [■] | 5/28 0 14/2
[59:45<8:07:59, 1273.00s/it]

G 0.07992 0.07051 0.04142 210 640: 21% [■] | 6/28 0 14/2
[59:45<5:12:16, 851.64s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.08051 0.06935 0.04097 163 640: 21% [■] | 6/28 0 14/2
[1:00:00<5:12:16, 851.64s/it]

G 0.08051 0.06935 0.04097 163 640: 25% [■] | 7/28 0 14/2
[1:00:00<3:22:24, 578.30s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.08007 0.07022 0.04118 225 640: 25% [■] | 7/28 0 14/2
[1:00:11<3:22:24, 578.30s/it]

G 0.08007 0.07022 0.04118 225 640: 29% [■] | 8/28 0 14/2
[1:00:11<2:12:35, 397.78s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0797 0.07067 0.04112 191 640: 29% [██████] | 8/28 0 14/2
[1:00:21<2:12:35, 397.78s/it]

G 0.0797 0.07067 0.04112 191 640: 32% [██████] | 9/28 0 14/2
[1:00:21<1:27:35, 276.58s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07941 0.07057 0.04156 186 640: 32% [██████] | 9/28 0 14/2
[1:00:32<1:27:35, 276.58s/it]

G 0.07941 0.07057 0.04156 186 640: 36% [██████] | 10/28 0 14/2
[1:00:32<58:17, 194.32s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07924 0.06949 0.04145 142 640: 36% [██████] | 10/28 0 14/2
[1:00:41<58:17, 194.32s/it]

G 0.07924 0.06949 0.04145 142 640: 39% [██████] | 11/28 0 14/2
[1:00:41<39:01, 137.74s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07942 0.07124 0.0414 265 640: 39% [██████] | 11/28 0 14/2
[1:00:50<39:01, 137.74s/it]

G 0.07942 0.07124 0.0414 265 640: 43% [██████] | 12/28 0 14/2
[1:00:50<26:19, 98.70s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0795 0.07041 0.04179 160 640: 43% [██████] | 12/28 0 14/2
[1:01:00<26:19, 98.70s/it]

G 0.0795 0.07041 0.04179 160 640: 46% [██████] | 13/28 0 14/2
[1:01:00<17:54, 71.65s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07898 0.0706 0.04177 193 640: 46% [██████] | 13/28 0 14/2
[1:01:09<17:54, 71.65s/it]

G 0.07898 0.0706 0.04177 193 640: 50% [██████] | 14/28 0 14/2
[1:01:09<12:18, 52.79s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07872 0.07004 0.04213 168 640: 50% [██████] | 14/28 0 14/2
[1:01:19<12:18, 52.79s/it]

G 0.07872 0.07004 0.04213 168 640: 54% [██████] | 15/28 0 14/2
[1:01:19<08:37, 39.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07821 0.07036 0.04198 200 640: 54% [██████] | 15/28 0 14/2
[1:01:28<08:37, 39.77s/it]

G 0.07821 0.07036 0.04198 200 640: 57% [██████] | 0 14/2
16/28 [1:01:28<06:07, 30.66s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0782 0.07074 0.04192 226 640: 57% [██████] | 16/28 0 14/2
[1:01:38<06:07, 30.66s/it]

G 0.0782 0.07074 0.04192 226 640: 61% [██████] | 17/28 0 14/2
[1:01:38<04:27, 24.30s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07805 0.07079 0.04179 184 640: 61%|███████ | 0 14/2
17/28 [1:01:47<04:27, 24.30s/it]

G 0.07805 0.07079 0.04179 184 640: 64%|███████ | 0 14/2
18/28 [1:01:47<03:18, 19.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07813 0.07014 0.04179 165 640: 64%|███████ | 0 14/2
18/28 [1:01:57<03:18, 19.87s/it]

G 0.07813 0.07014 0.04179 165 640: 68%|███████ | 0 14/2
19/28 [1:01:57<02:30, 16.71s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07778 0.07138 0.04133 245 640: 68%|███████ | 0 14/2
19/28 [1:02:06<02:30, 16.71s/it]

G 0.07778 0.07138 0.04133 245 640: 71%|███████ | 0 14/2
20/28 [1:02:06<01:55, 14.44s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07775 0.07106 0.04136 180 640: 71%|███████ | 0 14/2
20/28 [1:02:15<01:55, 14.44s/it]

G 0.07775 0.07106 0.04136 180 640: 75%|███████ | 0 14/2
21/28 [1:02:15<01:30, 12.86s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0775 0.07104 0.04134 183 640: 75%|███████ | 0 14/2
21/28 [1:02:24<01:30, 12.86s/it]

G 0.0775 0.07104 0.04134 183 640: 79%|███████ | 0 14/2
22/28 [1:02:24<01:10, 11.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07741 0.07093 0.04119 187 640: 79%|██████████| 0 14/2
22/28 [1:02:34<01:10, 11.83s/it]

G 0.07741 0.07093 0.04119 187 640: 82%|██████████| 0 14/2
23/28 [1:02:34<00:55, 11.04s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07733 0.07008 0.04151 129 640: 82%|██████████| 0 14/2
23/28 [1:02:43<00:55, 11.04s/it]

G 0.07733 0.07008 0.04151 129 640: 86%|██████████| 0 14/2
24/28 [1:02:43<00:41, 10.49s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07731 0.0698 0.0414 182 640: 86%|██████████| 0 14/2
24/28 [1:02:52<00:41, 10.49s/it]

G 0.07731 0.0698 0.0414 182 640: 89%|██████████| 0 14/2
25/28 [1:02:52<00:30, 10.19s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07734 0.06934 0.04134 152 640: 89%|██████████| 0 14/2
25/28 [1:03:04<00:30, 10.19s/it]

G 0.07734 0.06934 0.04134 152 640: 93%|██████████| 0 14/2
26/28 [1:03:04<00:21, 10.73s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07735 0.06974 0.0413 226 640: 93%|██████████| 0 14/2
26/28 [1:09:47<00:21, 10.73s/it]

G 0.07735 0.06974 0.0413 226 640: 96%|██████████| 0 14/2
27/28 [1:09:47<02:08, 128.22s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07734 0.06957 0.04123 198 640: 96%|██████████| 0 14/2
27/28 [1:09:57<02:08, 128.22s/it]
G 0.07734 0.06957 0.04123 198 640: 100%|██████████| 0 14/2
28/28 [1:09:57<00:00, 92.77s/it]
G 0.07734 0.06957 0.04123 198 640: 100%|██████████| 0 14/2
28/28 [1:09:57<00:00, 149.90s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95: 25%|██ |
1/4 [00:10<00:31, 10.51s/it]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95:
50%|██ | 2/4 [00:18<00:17, 8.90s/it]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95:
75%|██ | 3/4 [00:25<00:08, 8.11s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|██████ | 4/4 [00:32<00:00, 7.60s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|██████ | 4/4 [00:32<00:00, 8.07s/it]

all 127 909 0.253 0.189 0.0807 0.0257

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | %0
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0744 0.09343 0.03637 284 640: 0%| 0/28 0 14/3
[00:09<?, ?it/s]

G 0.0744 0.09343 0.03637 284 640: 4%| 1/28 0 14/3
[00:09<04:17, 9.54s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07353 0.07178 0.03998 114 640: 4%| 1/28 0 14/3
[00:19<04:17, 9.54s/it]

G 0.07353 0.07178 0.03998 114 640: 7%| 2/28 0 14/3
[00:19<04:09, 9.58s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07425 0.07334 0.0394 218 640: 7%| 2/28 0 14/3
[00:28<04:09, 9.58s/it]

G 0.07425 0.07334 0.0394 218 640: 11%| 3/28 0 14/3
[00:28<03:58, 9.54s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07386 0.07515 0.03967 222 640: 11%| 3/28 0 14/3
[00:38<03:58, 9.54s/it]

G 0.07386 0.07515 0.03967 222 640: 14%| 4/28 0 14/3
[00:38<03:50, 9.59s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07372 0.0727 0.03968 177 640: 14%| 4/28 0 14/3
[00:47<03:50, 9.59s/it]

G 0.07372 0.0727 0.03968 177 640: 18%| 5/28 0 14/3
[00:47<03:41, 9.61s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:

`torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07457 0.07476 0.03922 280 640: 18% [██████] | 5/28 0 14/3
[00:57<03:41, 9.61s/it]

G 0.07457 0.07476 0.03922 280 640: 21% [██████] | 6/28 0 14/3
[00:57<03:34, 9.74s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07515 0.07614 0.03878 262 640: 21% [██████] | 6/28 0 14/3
[01:07<03:34, 9.74s/it]

G 0.07515 0.07614 0.03878 262 640: 25% [██████] | 7/28 0 14/3
[01:07<03:24, 9.73s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0757 0.07708 0.03856 272 640: 25% [██████] | 7/28 0 14/3
[01:17<03:24, 9.73s/it]

G 0.0757 0.07708 0.03856 272 640: 29% [██████] | 8/28 0 14/3
[01:17<03:12, 9.62s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07453 0.07507 0.0391 139 640: 29% [██████] | 8/28 0 14/3
[01:26<03:12, 9.62s/it]

G 0.07453 0.07507 0.0391 139 640: 32% [██████] | 9/28 0 14/3
[01:26<03:01, 9.58s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07451 0.07717 0.03884 300 640: 32% [██████] | 9/28 0 14/3
[01:35<03:01, 9.58s/it]

G 0.07451 0.07717 0.03884 300 640: 36% [██████] | 10/28 0 14/3
[01:35<02:51, 9.53s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07433 0.07901 0.03863 331 640: 36% [██████] | 10/28 0 14/3
[01:45<02:51, 9.53s/it]

G 0.07433 0.07901 0.03863 331 640: 39% [██████] | 11/28 0 14/3
[01:45<02:41, 9.48s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07379 0.07705 0.03913 149 640: 39% [██████] | 11/28 0 14/3
[01:55<02:41, 9.48s/it]

G 0.07379 0.07705 0.03913 149 640: 43% [██████] | 12/28 0 14/3
[01:55<02:33, 9.57s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07418 0.07735 0.03918 268 640: 43% [██████] | 12/28 0 14/3
[02:05<02:33, 9.57s/it]

G 0.07418 0.07735 0.03918 268 640: 46% [██████] | 13/28 0 14/3
[02:05<02:26, 9.74s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07479 0.07657 0.03909 241 640: 46% [██████] | 13/28 0 14/3
[02:15<02:26, 9.74s/it]

G 0.07479 0.07657 0.03909 241 640: 50% [██████] | 14/28 0 14/3
[02:15<02:17, 9.81s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07457 0.07417 0.03989 96 640: 50% [██████] | 14/28 0 14/3
[02:24<02:17, 9.81s/it]

G 0.07457 0.07417 0.03989 96 640: 54% [██████] | 15/28 0 14/3
[02:24<02:05, 9.67s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07454 0.07337 0.03968 186 640: 54% [██████] | 15/28 0 14/3
[02:34<02:05, 9.67s/it]

G 0.07454 0.07337 0.03968 186 640: 57% [██████] | 0 14/3
16/28 [02:34<01:55, 9.62s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07413 0.07212 0.03941 139 640: 57% [██████] | 0 14/3
16/28 [02:43<01:55, 9.62s/it]

G 0.07413 0.07212 0.03941 139 640: 61% [██████] | 0 14/3
17/28 [02:43<01:45, 9.56s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07415 0.07279 0.03931 273 640: 61% [██████] | 0 14/3
17/28 [02:53<01:45, 9.56s/it]

G 0.07415 0.07279 0.03931 273 640: 64% [██████] | 0 14/3
18/28 [02:53<01:35, 9.56s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07396 0.07296 0.03908 218 640: 64% [██████] | 0 14/3
18/28 [03:02<01:35, 9.56s/it]

G 0.07396 0.07296 0.03908 218 640: 68%|██████████| 0 14/3
19/28 [03:02<01:26, 9.56s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07384 0.07307 0.03865 202 640: 68%|██████████| 0 14/3
19/28 [03:12<01:26, 9.56s/it]

G 0.07384 0.07307 0.03865 202 640: 71%|██████████| 0 14/3
20/28 [03:12<01:16, 9.52s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07386 0.07199 0.03876 134 640: 71%|██████████| 0 14/3
20/28 [03:21<01:16, 9.52s/it]

G 0.07386 0.07199 0.03876 134 640: 75%|██████████| 0 14/3
21/28 [03:21<01:06, 9.53s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0739 0.0722 0.03886 207 640: 75%|██████████| 0 14/3
21/28 [03:30<01:06, 9.53s/it]

G 0.0739 0.0722 0.03886 207 640: 79%|██████████| 0 14/3
22/28 [03:30<00:56, 9.46s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07412 0.07179 0.03892 190 640: 79%|██████████| 0 14/3
22/28 [03:40<00:56, 9.46s/it]

G 0.07412 0.07179 0.03892 190 640: 82%|██████████| 0 14/3
23/28 [03:40<00:47, 9.41s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07439 0.07137 0.03868 216 640: 82%|██████████| 0 14/3
23/28 [03:49<00:47, 9.41s/it]

G 0.07439 0.07137 0.03868 216 640: 86%|██████████| 0 14/3
24/28 [03:49<00:37, 9.37s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0742 0.07172 0.03873 237 640: 86%|██████████| 0 14/3
24/28 [03:58<00:37, 9.37s/it]

G 0.0742 0.07172 0.03873 237 640: 89%|██████████| 0 14/3
25/28 [03:58<00:28, 9.37s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07396 0.07119 0.03875 169 640: 89%|██████████| 0 14/3
25/28 [04:08<00:28, 9.37s/it]

G 0.07396 0.07119 0.03875 169 640: 93%|██████████| 0 14/3
26/28 [04:08<00:18, 9.48s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07375 0.07131 0.03872 211 640: 93%|██████████| 0 14/3
26/28 [04:18<00:18, 9.48s/it]

G 0.07375 0.07131 0.03872 211 640: 96%|██████████| 0 14/3
27/28 [04:18<00:09, 9.55s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07365 0.07131 0.0386 224 640: 96%|██████████| 0 14/3
27/28 [04:27<00:09, 9.55s/it]

G 0.07365 0.07131 0.0386 224 640: 100%|██████████| 0 14/3
28/28 [04:27<00:00, 9.55s/it]

G 0.07365 0.07131 0.0386 224 640: 100%|██████████| 0 14/3
28/28 [04:27<00:00, 9.56s/it]

Class Images Instances P R mAP50 mAP50-95: 0% | 0/4
[00:00<?, ?it/s]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95: 25%|████| 1/4 [00:08<00:26, 8.83s/it]

Class Images Instances P R mAP50 mAP50-95:
50%|████| 2/4 [00:15<00:15, 7.77s/it]WARNING NMS time limit 2.100s exceeded

Class Images Instances P R mAP50 mAP50-95:
75%|██████| 3/4 [00:23<00:07, 7.75s/it]WARNING NMS time limit 2.050s
exceeded

Class Images Instances P R mAP50 mAP50-95:
100%|████████| 4/4 [00:33<00:00, 8.67s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|████████| 4/4 [00:33<00:00, 8.41s/it]

all 127 909 0.364 0.193 0.0825 0.0284

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | %0
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07256 0.06945 0.04562 207 640: 0% | 0/28 0 14/4
[00:14<?, ?it/s]

G 0.07256 0.06945 0.04562 207 640: 4%| | 1/28 0 14/4
[00:14<06:44, 14.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07382 0.06291 0.04132 180 640: 4%|█████ | 1/28 0 14/4
[30:29<06:44, 14.97s/it]

G 0.07382 0.06291 0.04132 180 640: 7%|█████ | 2/28 0 14/4
[30:29<7:45:08, 1073.40s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07295 0.06236 0.03992 169 640: 7%|█████ | 2/28 0 14/4
[30:43<7:45:08, 1073.40s/it]

G 0.07295 0.06236 0.03992 169 640: 11%|█████ | 3/28 0 14/4
[30:43<4:05:42, 589.71s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07334 0.06346 0.03872 216 640: 11%|█████ | 3/28 0 14/4
[30:54<4:05:42, 589.71s/it]

G 0.07334 0.06346 0.03872 216 640: 14%|█████ | 4/28 0 14/4
[30:54<2:24:28, 361.20s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07241 0.06337 0.03875 169 640: 14%|█████ | 4/28 0 14/4
[31:04<2:24:28, 361.20s/it]

G 0.07241 0.06337 0.03875 169 640: 18%|█████ | 5/28 0 14/4
[31:04<1:29:57, 234.69s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07214 0.06514 0.03898 233 640: 18%|█████ | 5/28 0 14/4
[31:14<1:29:57, 234.69s/it]

G 0.07214 0.06514 0.03898 233 640: 21%|█████ | 6/28 0 14/4
[31:14<58:01, 158.23s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07181 0.06608 0.03882 186 640: 21% [██████] | 6/28 0 14/4
[31:23<58:01, 158.23s/it]

G 0.07181 0.06608 0.03882 186 640: 25% [██████] | 7/28 0 14/4
[31:23<38:19, 109.49s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07146 0.06895 0.03868 249 640: 25% [██████] | 7/28 0 14/4
[31:33<38:19, 109.49s/it]

G 0.07146 0.06895 0.03868 249 640: 29% [██████] | 8/28 0 14/4
[31:33<25:52, 77.64s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0714 0.06794 0.03852 185 640: 29% [██████] | 8/28 0 14/4
[31:42<25:52, 77.64s/it]

G 0.0714 0.06794 0.03852 185 640: 32% [██████] | 9/28 0 14/4
[31:42<17:49, 56.29s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07148 0.06771 0.03846 196 640: 32% [██████] | 9/28 0 14/4
[31:51<17:49, 56.29s/it]

G 0.07148 0.06771 0.03846 196 640: 36% [██████] | 10/28 0 14/4
[31:51<12:32, 41.79s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07161 0.06873 0.0386 259 640: 36% [██████] | 10/28 0 14/4
[32:00<12:32, 41.79s/it]

G 0.07161 0.06873 0.0386 259 640: 39% [██████] | 11/28 0 14/4
[32:00<09:00, 31.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07156 0.06778 0.03852 147 640: 39% [██████] | 11/28 0 14/4
[32:10<09:00, 31.82s/it]
G 0.07156 0.06778 0.03852 147 640: 43% [██████] | 12/28 0 14/4
[32:10<06:39, 24.95s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07091 0.0686 0.03807 229 640: 43% [██████] | 12/28 0 14/4
[32:19<06:39, 24.95s/it]
G 0.07091 0.0686 0.03807 229 640: 46% [██████] | 13/28 0 14/4
[32:19<05:03, 20.23s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07059 0.06926 0.03813 234 640: 46% [██████] | 13/28 0 14/4
[32:28<05:03, 20.23s/it]
G 0.07059 0.06926 0.03813 234 640: 50% [██████] | 14/28 0 14/4
[32:28<03:56, 16.92s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07057 0.07069 0.03814 289 640: 50% [██████] | 14/28 0 14/4
[32:37<03:56, 16.92s/it]
G 0.07057 0.07069 0.03814 289 640: 54% [██████] | 15/28 0 14/4
[32:37<03:09, 14.56s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.07035 0.07206 0.03792 291 640: 54%|███████ | 15/28 0 14/4
[32:47<03:09, 14.56s/it]

G 0.07035 0.07206 0.03792 291 640: 57%|███████ | 0 14/4
16/28 [32:47<02:35, 12.94s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07042 0.07307 0.0377 293 640: 57%|███████ | 16/28 0 14/4
[32:56<02:35, 12.94s/it]

G 0.07042 0.07307 0.0377 293 640: 61%|███████ | 17/28 0 14/4
[32:56<02:09, 11.78s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07024 0.07257 0.03744 190 640: 61%|███████ | 0 14/4
17/28 [33:05<02:09, 11.78s/it]

G 0.07024 0.07257 0.03744 190 640: 64%|███████ | 0 14/4
18/28 [33:05<01:50, 11.06s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.07009 0.07167 0.03736 128 640: 64%|███████ | 0 14/4
18/28 [33:14<01:50, 11.06s/it]

G 0.07009 0.07167 0.03736 128 640: 68%|███████ | 0 14/4
19/28 [33:14<01:34, 10.49s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06999 0.07182 0.03704 204 640: 68%|███████ | 0 14/4
19/28 [33:24<01:34, 10.49s/it]

G 0.06999 0.07182 0.03704 204 640: 71%|███████ | 0 14/4
20/28 [33:24<01:21, 10.14s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0698 0.07129 0.03669 171 640: 71% [██████] | 0 14/4
20/28 [33:34<01:21, 10.14s/it]

G 0.0698 0.07129 0.03669 171 640: 75% [██████] | 0 14/4
21/28 [33:34<01:11, 10.26s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06978 0.07058 0.0369 167 640: 75% [██████] | 0 14/4
21/28 [54:36<01:11, 10.26s/it]

G 0.06978 0.07058 0.0369 167 640: 79% [██████] | 0 14/4
22/28 [54:36<38:35, 385.98s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06958 0.06965 0.03741 127 640: 79% [██████] | 0 14/4
22/28 [54:52<38:35, 385.98s/it]

G 0.06958 0.06965 0.03741 127 640: 82% [██████] | 0 14/4
23/28 [54:52<22:54, 274.99s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06973 0.07027 0.03725 295 640: 82% [██████] | 0 14/4
23/28 [55:04<22:54, 274.99s/it]

G 0.06973 0.07027 0.03725 295 640: 86% [██████] | 0 14/4
24/28 [55:04<13:04, 196.07s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06983 0.06998 0.03733 207 640: 86%|██████████| 0 14/4
24/28 [55:15<13:04, 196.07s/it]

G 0.06983 0.06998 0.03733 207 640: 89%|██████████| 0 14/4
25/28 [55:15<07:01, 140.42s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0698 0.07019 0.03735 228 640: 89%|██████████| 0 14/4
25/28 [55:25<07:01, 140.42s/it]

G 0.0698 0.07019 0.03735 228 640: 93%|██████████| 0 14/4
26/28 [55:25<03:22, 101.31s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06982 0.06994 0.03741 168 640: 93%|██████████| 0 14/4
26/28 [55:34<03:22, 101.31s/it]

G 0.06982 0.06994 0.03741 168 640: 96%|██████████| 0 14/4
27/28 [55:34<01:13, 73.76s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06976 0.07012 0.0372 200 640: 96%|██████████| 0 14/4
27/28 [55:44<01:13, 73.76s/it]

G 0.06976 0.07012 0.0372 200 640: 100%|██████████| 0 14/4
28/28 [55:44<00:00, 54.48s/it]

G 0.06976 0.07012 0.0372 200 640: 100%|██████████| 0 14/4
28/28 [55:44<00:00, 119.45s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]

Class Images Instances P R mAP50 mAP50-95: 25%|████|
1/4 [00:09<00:27, 9.23s/it]

Class Images Instances P R mAP50 mAP50-95:
50%|████| 2/4 [00:16<00:15, 7.84s/it]

| Class | Images | Instances | P | R | mAP50 | mAP50-95: |
|-------|--------------|-----------|-------------------------|-------|-------|-----------|
| 75% | [██████████] | 3/4 | [00:22<00:07, 7.15s/it] | | | |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: |
| 100% | [██████████] | 4/4 | [00:28<00:00, 6.79s/it] | | | |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: |
| 100% | [██████████] | 4/4 | [00:28<00:00, 7.16s/it] | | | |
| all | 127 | 909 | 0.575 | 0.244 | 0.205 | 0.0814 |

| Epoch | GPU_mem | box_loss | obj_loss | cls_loss | Instances | Size |
|-------|---------|----------|----------|----------|-----------|------|
|-------|---------|----------|----------|----------|-----------|------|

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | ██████████ |%0
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06662 0.05935 0.03524 186 640: 0%| █ | 0/28 0 14/5
[00:10<?, ?it/s]

G 0.06662 0.05935 0.03524 186 640: 4%| █ | 1/28 0 14/5
[00:10<04:39, 10.35s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06406 0.06947 0.03379 230 640: 4%| █ | 1/28 0 14/5
[00:20<04:39, 10.35s/it]

G 0.06406 0.06947 0.03379 230 640: 7%| █ | 2/28 0 14/5
[00:20<04:19, 9.99s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06368 0.06453 0.03423 159 640: 7%| █ | 2/28 0 14/5
[00:29<04:19, 9.99s/it]

G 0.06368 0.06453 0.03423 159 640: 11%| █ | 3/28 0 14/5
[00:29<04:05, 9.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06235 0.06071 0.03306 128 640: 11% [■] | 3/28 0 14/5
[00:39<04:05, 9.81s/it]

G 0.06235 0.06071 0.03306 128 640: 14% [■] | 4/28 0 14/5
[00:39<03:55, 9.80s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06246 0.06321 0.03299 227 640: 14% [■] | 4/28 0 14/5
[00:49<03:55, 9.80s/it]

G 0.06246 0.06321 0.03299 227 640: 18% [■] | 5/28 0 14/5
[00:49<03:43, 9.71s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06246 0.06476 0.03302 216 640: 18% [■] | 5/28 0 14/5
[00:59<03:43, 9.71s/it]

G 0.06246 0.06476 0.03302 216 640: 21% [■] | 6/28 0 14/5
[00:59<03:36, 9.84s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06239 0.0636 0.03338 144 640: 21% [■] | 6/28 0 14/5
[01:08<03:36, 9.84s/it]

G 0.06239 0.0636 0.03338 144 640: 25% [■] | 7/28 0 14/5
[01:08<03:23, 9.68s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06317 0.06399 0.03284 209 640: 25% [■] | 7/28 0 14/5
[01:17<03:23, 9.68s/it]

G 0.06317 0.06399 0.03284 209 640: 29% [██████] | 8/28 0 14/5
[01:17<03:11, 9.60s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06339 0.06528 0.03271 238 640: 29% [██████] | 8/28 0 14/5
[01:27<03:11, 9.60s/it]

G 0.06339 0.06528 0.03271 238 640: 32% [██████] | 9/28 0 14/5
[01:27<03:01, 9.57s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06375 0.06472 0.03259 185 640: 32% [██████] | 9/28 0 14/5
[01:36<03:01, 9.57s/it]

G 0.06375 0.06472 0.03259 185 640: 36% [██████] | 10/28 0 14/5
[01:36<02:51, 9.54s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06381 0.06413 0.03283 166 640: 36% [██████] | 10/28 0 14/5
[01:46<02:51, 9.54s/it]

G 0.06381 0.06413 0.03283 166 640: 39% [██████] | 11/28 0 14/5
[01:46<02:41, 9.52s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06367 0.06375 0.03276 158 640: 39% [██████] | 11/28 0 14/5
[01:55<02:41, 9.52s/it]

G 0.06367 0.06375 0.03276 158 640: 43% [██████] | 12/28 0 14/5
[01:55<02:31, 9.48s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06348 0.06444 0.03248 228 640: 43% [██████] | 12/28 0 14/5
[02:05<02:31, 9.48s/it]

G 0.06348 0.06444 0.03248 228 640: 46% [██████] | 13/28 0 14/5
[02:05<02:21, 9.44s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06342 0.06438 0.03248 189 640: 46% [██████] | 13/28 0 14/5
[02:14<02:21, 9.44s/it]

G 0.06342 0.06438 0.03248 189 640: 50% [██████] | 14/28 0 14/5
[02:14<02:11, 9.41s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06335 0.06467 0.03237 204 640: 50% [██████] | 14/28 0 14/5
[02:23<02:11, 9.41s/it]

G 0.06335 0.06467 0.03237 204 640: 54% [██████] | 15/28 0 14/5
[02:23<02:02, 9.42s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06331 0.06479 0.03211 184 640: 54% [██████] | 15/28 0 14/5
[02:33<02:02, 9.42s/it]

G 0.06331 0.06479 0.03211 184 640: 57% [██████] | 0 14/5
16/28 [02:33<01:52, 9.34s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06338 0.06478 0.03216 189 640: 57% [██████] | 0 14/5
16/28 [02:42<01:52, 9.34s/it]

G 0.06338 0.06478 0.03216 189 640: 61% [██████] | 0 14/5
17/28 [02:42<01:42, 9.30s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06366 0.06521 0.03191 227 640: 61% [██████] | 0 14/5
17/28 [02:51<01:42, 9.30s/it]

G 0.06366 0.06521 0.03191 227 640: 64% [██████] | 0 14/5
18/28 [02:51<01:33, 9.32s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06358 0.06476 0.03217 157 640: 64% [██████] | 0 14/5
18/28 [03:00<01:33, 9.32s/it]

G 0.06358 0.06476 0.03217 157 640: 68% [██████] | 0 14/5
19/28 [03:00<01:23, 9.33s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06384 0.06459 0.03242 197 640: 68% [██████] | 0 14/5
19/28 [03:10<01:23, 9.33s/it]

G 0.06384 0.06459 0.03242 197 640: 71% [██████] | 0 14/5
20/28 [03:10<01:16, 9.51s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06369 0.06456 0.03238 187 640: 71% [██████] | 0 14/5
20/28 [03:20<01:16, 9.51s/it]

G 0.06369 0.06456 0.03238 187 640: 75% [██████] | 0 14/5
21/28 [03:20<01:06, 9.50s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06378 0.06463 0.03224 192 640: 75%|██████████| 0 14/5
21/28 [03:29<01:06, 9.50s/it]

G 0.06378 0.06463 0.03224 192 640: 79%|██████████| 0 14/5
22/28 [03:29<00:56, 9.44s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0638 0.06536 0.032 262 640: 79%|██████████| 0 14/5
22/28 [03:39<00:56, 9.44s/it]

G 0.0638 0.06536 0.032 262 640: 82%|██████████| 0 14/5
23/28 [03:39<00:47, 9.44s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06371 0.06621 0.03196 282 640: 82%|██████████| 0 14/5
23/28 [03:48<00:47, 9.44s/it]

G 0.06371 0.06621 0.03196 282 640: 86%|██████████| 0 14/5
24/28 [03:48<00:37, 9.44s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06353 0.06567 0.03189 157 640: 86%|██████████| 0 14/5
24/28 [03:57<00:37, 9.44s/it]

G 0.06353 0.06567 0.03189 157 640: 89%|██████████| 0 14/5
25/28 [03:57<00:28, 9.38s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06327 0.06563 0.0316 156 640: 89%|██████████| 0 14/5
25/28 [04:07<00:28, 9.38s/it]

G 0.06327 0.06563 0.0316 156 640: 93%|██████████| 0 14/5
26/28 [04:07<00:18, 9.47s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06323 0.0653 0.03178 168 640: 93%|██████████| 0 14/5  
26/28 [04:17<00:18, 9.47s/it]
```

```
G 0.06323 0.0653 0.03178 168 640: 96%|██████████| 0 14/5  
27/28 [04:17<00:09, 9.76s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06322 0.06601 0.03173 269 640: 96%|██████████| 0 14/5  
27/28 [52:32<00:09, 9.76s/it]
```

```
G 0.06322 0.06601 0.03173 269 640: 100%|██████████| 0 14/5  
28/28 [52:32<00:00, 875.30s/it]
```

```
G 0.06322 0.06601 0.03173 269 640: 100%|██████████| 0 14/5  
28/28 [52:32<00:00, 112.59s/it]
```

```
Class Images Instances P R mAP50 mAP50-95: 0%| 0/4  
[00:00<?, ?it/s]
```

```
Class Images Instances P R mAP50 mAP50-95: 25%|██ |  
1/4 [00:15<00:47, 15.76s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
50%|██ | 2/4 [00:22<00:21, 10.67s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
75%|██ | 3/4 [00:29<00:08, 8.89s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
100%|██ | 4/4 [00:35<00:00, 7.72s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
100%|██ | 4/4 [00:35<00:00, 8.89s/it]
```

```
all 127 909 0.662 0.225 0.144 0.0596
```

```
Epoch GPU_mem box_loss obj_loss cls_loss Instances Size
```

```
[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | 0%  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06609 0.07866 0.03183 271 640: 0%| 0/28 0 14/6  
[00:10<?, ?it/s]
```

```
G 0.06609 0.07866 0.03183 271 640: 4%| 1/28 0 14/6  
[00:10<04:49, 10.71s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06708 0.06981 0.03001 182 640: 4%| 1/28 0 14/6  
[00:20<04:49, 10.71s/it]
```

```
G 0.06708 0.06981 0.03001 182 640: 7%| 2/28 0 14/6  
[00:20<04:23, 10.13s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06776 0.06689 0.03251 173 640: 7%| 2/28 0 14/6  
[00:31<04:23, 10.13s/it]
```

```
G 0.06776 0.06689 0.03251 173 640: 11%| 3/28 0 14/6  
[00:31<04:18, 10.36s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06683 0.06312 0.03164 165 640: 11%| 3/28 0 14/6  
[00:40<04:18, 10.36s/it]
```

```
G 0.06683 0.06312 0.03164 165 640: 14%| 4/28 0 14/6  
[00:40<03:59, 9.96s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:  
`torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06467 0.0624 0.03189 167 640: 14%| 4/28 0 14/6  
[00:49<03:59, 9.96s/it]
```

G 0.06467 0.0624 0.03189 167 640: 18% [██████] | 5/28 0 14/6
[00:49<03:43, 9.74s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06363 0.06483 0.03073 233 640: 18% [██████] | 5/28 0 14/6
[00:58<03:43, 9.74s/it]

G 0.06363 0.06483 0.03073 233 640: 21% [██████] | 6/28 0 14/6
[00:58<03:29, 9.53s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06242 0.06497 0.03041 184 640: 21% [██████] | 6/28 0 14/6
[01:08<03:29, 9.53s/it]

G 0.06242 0.06497 0.03041 184 640: 25% [██████] | 7/28 0 14/6
[01:08<03:18, 9.46s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06224 0.06367 0.03038 154 640: 25% [██████] | 7/28 0 14/6
[01:17<03:18, 9.46s/it]

G 0.06224 0.06367 0.03038 154 640: 29% [██████] | 8/28 0 14/6
[01:17<03:07, 9.35s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06186 0.06573 0.02982 256 640: 29% [██████] | 8/28 0 14/6
[01:26<03:07, 9.35s/it]

G 0.06186 0.06573 0.02982 256 640: 32% [██████] | 9/28 0 14/6
[01:26<02:58, 9.41s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0617 0.06601 0.02942 225 640: 32% [██████] | 9/28 0 14/6
[01:36<02:58, 9.41s/it]

G 0.0617 0.06601 0.02942 225 640: 36% [██████] | 10/28 0 14/6
[01:36<02:50, 9.46s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0617 0.06555 0.02979 178 640: 36% [██████] | 10/28 0 14/6
[01:45<02:50, 9.46s/it]

G 0.0617 0.06555 0.02979 178 640: 39% [██████] | 11/28 0 14/6
[01:45<02:38, 9.34s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06157 0.06378 0.03011 118 640: 39% [██████] | 11/28 0 14/6
[01:54<02:38, 9.34s/it]

G 0.06157 0.06378 0.03011 118 640: 43% [██████] | 12/28 0 14/6
[01:54<02:29, 9.33s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06176 0.06394 0.03027 224 640: 43% [██████] | 12/28 0 14/6
[02:04<02:29, 9.33s/it]

G 0.06176 0.06394 0.03027 224 640: 46% [██████] | 13/28 0 14/6
[02:04<02:19, 9.30s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06164 0.06327 0.03087 153 640: 46% [██████] | 13/28 0 14/6
[02:13<02:19, 9.30s/it]

G 0.06164 0.06327 0.03087 153 640: 50% [██████] | 14/28 0 14/6
[02:13<02:10, 9.31s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:

`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06156 0.06298 0.03052 188 640: 50% [██████] | 14/28 0 14/6
[02:22<02:10, 9.31s/it]

G 0.06156 0.06298 0.03052 188 640: 54% [██████] | 15/28 0 14/6
[02:22<02:00, 9.29s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06169 0.06345 0.03046 241 640: 54% [██████] | 15/28 0 14/6
[02:32<02:00, 9.29s/it]

G 0.06169 0.06345 0.03046 241 640: 57% [██████] | 0 14/6
16/28 [02:32<01:52, 9.40s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06143 0.06336 0.03033 181 640: 57% [██████] | 0 14/6
16/28 [42:07<01:52, 9.40s/it]

G 0.06143 0.06336 0.03033 181 640: 61% [██████] | 0 14/6
17/28 [42:07<2:12:08, 720.75s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0614 0.06345 0.03022 197 640: 61% [██████] | 17/28 0 14/6
[42:20<2:12:08, 720.75s/it]

G 0.0614 0.06345 0.03022 197 640: 64% [██████] | 0 14/6
18/28 [42:20<1:24:42, 508.20s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06113 0.0643 0.03004 251 640: 64%|██████| 0 14/6
18/28 [42:37<1:24:42, 508.20s/it]

G 0.06113 0.0643 0.03004 251 640: 68%|██████| 0 14/6
19/28 [42:37<54:04, 360.47s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06085 0.06426 0.02981 196 640: 68%|██████| 0 14/6
19/28 [42:48<54:04, 360.47s/it]

G 0.06085 0.06426 0.02981 196 640: 71%|██████| 0 14/6
20/28 [42:48<34:05, 255.63s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06073 0.06351 0.02979 128 640: 71%|██████| 0 14/6
20/28 [42:59<34:05, 255.63s/it]

G 0.06073 0.06351 0.02979 128 640: 75%|██████| 0 14/6
21/28 [42:59<21:15, 182.18s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06086 0.06329 0.02971 180 640: 75%|██████| 0 14/6
21/28 [43:09<21:15, 182.18s/it]

G 0.06086 0.06329 0.02971 180 640: 79%|██████| 0 14/6
22/28 [43:09<13:04, 130.68s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.06094 0.06412 0.0295 271 640: 79%|██████| 0 14/6
22/28 [43:20<13:04, 130.68s/it]

G 0.06094 0.06412 0.0295 271 640: 82%|██████| 0 14/6
23/28 [43:20<07:52, 94.54s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06106 0.06399 0.02945    212    640: 82%|██████████| 0      14/6  
23/28 [43:29<07:52, 94.54s/it]
```

```
G 0.06106 0.06399 0.02945    212    640: 86%|██████████| 0      14/6  
24/28 [43:29<04:35, 68.98s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06088 0.06382 0.02952    183    640: 86%|██████████| 0      14/6  
24/28 [43:38<04:35, 68.98s/it]
```

```
G 0.06088 0.06382 0.02952    183    640: 89%|██████████| 0      14/6  
25/28 [43:38<02:33, 51.13s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06062 0.063 0.02983     120    640: 89%|██████████| 0      14/6  
25/28 [43:48<02:33, 51.13s/it]
```

```
G 0.06062 0.063 0.02983     120    640: 93%|██████████| 0      14/6  
26/28 [43:48<01:17, 38.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06058 0.06402 0.02972    282    640: 93%|██████████| 0      14/6  
26/28 [43:58<01:17, 38.77s/it]
```

```
G 0.06058 0.06402 0.02972    282    640: 96%|██████████| 0      14/6  
27/28 [43:58<00:30, 30.01s/it]c:\Users\96650\Downloads\yolov5\train.py:414:  
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.06039 0.06371 0.02955    171    640: 96%|██████████| 0      14/6  
27/28 [44:07<00:30, 30.01s/it]
```

| | | | | | | |
|--------------------------------|---------|-----------|---------|-------|---|-------|
| G | 0.06039 | 0.06371 | 0.02955 | 171 | 640: 100% [██████████] 0 | 14/6 |
| 28/28 [44:07<00:00, 23.80s/it] | | | | | | |
| G | 0.06039 | 0.06371 | 0.02955 | 171 | 640: 100% [██████████] 0 | 14/6 |
| 28/28 [44:07<00:00, 94.56s/it] | | | | | | |
| | | | | | | |
| Class | Images | Instances | P | R | mAP50 mAP50-95: 0% 0/4 | |
| [00:00<?, ?it/s] | | | | | | |
| Class | Images | Instances | P | R | mAP50 mAP50-95: 25% [███] | |
| 1/4 [00:08<00:24, 8.05s/it] | | | | | | |
| Class | Images | Instances | P | R | mAP50 mAP50-95: 50% [██████] 2/4 [00:13<00:13, 6.68s/it] | |
| Class | Images | Instances | P | R | mAP50 mAP50-95: 75% [███████] 3/4 [00:18<00:05, 5.99s/it] | |
| Class | Images | Instances | P | R | mAP50 mAP50-95: 100% [██████████] 4/4 [00:24<00:00, 5.66s/it] | |
| Class | Images | Instances | P | R | mAP50 mAP50-95: 100% [██████████] 4/4 [00:24<00:00, 6.03s/it] | |
| all | 127 | 909 | 0.581 | 0.284 | 0.283 | 0.123 |

| Epoch | GPU_mem | box_loss | obj_loss | cls_loss | Instances | Size |
|---|---|----------|----------|----------|------------------|------|
| [00:00<?, ?it/s] | c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 %0 | | | | | |
| FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use . `torch.amp.autocast('cuda', args...)` instead | | | | | | |
| :with torch.cuda.amp.autocast(amp) | | | | | | |
| | | | | | | |
| G | 0.05918 | 0.05716 | 0.02483 | 176 | 640: 0% 0/28 0 | 14/7 |
| [00:09<?, ?it/s] | | | | | | |
| G | 0.05918 | 0.05716 | 0.02483 | 176 | 640: 4% 1/28 0 | 14/7 |
| [00:09<04:27, 9.90s/it] | | | | | | |
| c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use . `torch.amp.autocast('cuda', args...)` instead | | | | | | |
| :with torch.cuda.amp.autocast(amp) | | | | | | |
| | | | | | | |
| G | 0.05827 | 0.05876 | 0.02676 | 174 | 640: 4% 1/28 0 | 14/7 |
| [00:19<04:27, 9.90s/it] | | | | | | |

G 0.05827 0.05876 0.02676 174 640: 7%|█████ | 2/28 0 14/7
[00:19<04:10, 9.62s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.06003 0.06515 0.02651 278 640: 7%|█████ | 2/28 0 14/7
[00:28<04:10, 9.62s/it]

G 0.06003 0.06515 0.02651 278 640: 11%|██████ | 3/28 0 14/7
[00:28<04:00, 9.60s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05953 0.06297 0.02742 193 640: 11%|█████ | 3/28 0 14/7
[00:38<04:00, 9.60s/it]

G 0.05953 0.06297 0.02742 193 640: 14%|██████ | 4/28 0 14/7
[00:38<03:48, 9.52s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05856 0.06221 0.02777 169 640: 14%|██████ | 4/28 0 14/7
[00:47<03:48, 9.52s/it]

G 0.05856 0.06221 0.02777 169 640: 18%|███████ | 5/28 0 14/7
[00:47<03:38, 9.50s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0581 0.0625 0.02744 205 640: 18%|███████ | 5/28 0 14/7
[15:20<03:38, 9.50s/it]

G 0.0581 0.0625 0.02744 205 640: 21%|███████ | 6/28 0 14/7
[15:20<1:51:06, 303.01s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.058 0.06327 0.02806 208 640: 21% [██████] | 6/28 0 14/7
[15:35<1:51:06, 303.01s/it]

G 0.058 0.06327 0.02806 208 640: 25% [██████] | 7/28 0 14/7
[15:35<1:13:05, 208.82s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05761 0.06349 0.02824 190 640: 25% [██████] | 7/28 0 14/7
[15:45<1:13:05, 208.82s/it]

G 0.05761 0.06349 0.02824 190 640: 29% [██████] | 8/28 0 14/7
[15:45<48:31, 145.59s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05728 0.06212 0.02856 132 640: 29% [██████] | 8/28 0 14/7
[15:54<48:31, 145.59s/it]

G 0.05728 0.06212 0.02856 132 640: 32% [██████] | 9/28 0 14/7
[15:54<32:34, 102.85s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05764 0.06196 0.02841 196 640: 32% [██████] | 9/28 0 14/7
[16:03<32:34, 102.85s/it]

G 0.05764 0.06196 0.02841 196 640: 36% [██████] | 10/28 0 14/7
[16:03<22:10, 73.93s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05655 0.06003 0.02901 92 640: 36% [██████] | 10/28 0 14/7
[16:12<22:10, 73.93s/it]

G 0.05655 0.06003 0.02901 92 640: 39% [██████] | 11/28 0 14/7
[16:12<15:17, 53.99s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05664 0.05962 0.02869 156 640: 39% [██████] | 11/28 0 14/7
[16:21<15:17, 53.99s/it]

G 0.05664 0.05962 0.02869 156 640: 43% [██████] | 12/28 0 14/7
[16:21<10:46, 40.39s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0566 0.06072 0.02878 234 640: 43% [██████] | 12/28 0 14/7
[16:30<10:46, 40.39s/it]

G 0.0566 0.06072 0.02878 234 640: 46% [██████] | 13/28 0 14/7
[16:30<07:40, 30.68s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05636 0.06094 0.02897 183 640: 46% [██████] | 13/28 0 14/7
[16:38<07:40, 30.68s/it]

G 0.05636 0.06094 0.02897 183 640: 50% [██████] | 14/28 0 14/7
[16:38<05:35, 23.94s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05635 0.06071 0.02897 174 640: 50% [██████] | 14/28 0 14/7
[16:46<05:35, 23.94s/it]

G 0.05635 0.06071 0.02897 174 640: 54% [██████] | 15/28 0 14/7
[16:46<04:09, 19.20s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05631 0.06228 0.02854 257 640: 54% [██████] | 15/28 0 14/7
[16:54<04:09, 19.20s/it]

G 0.05631 0.06228 0.02854 257 640: 57% [██████] | 0 14/7
16/28 [16:54<03:10, 15.88s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05602 0.06275 0.02828 206 640: 57% [██████] | 0 14/7
16/28 [17:02<03:10, 15.88s/it]

G 0.05602 0.06275 0.02828 206 640: 61% [██████] | 0 14/7
17/28 [17:02<02:28, 13.50s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05585 0.06269 0.02815 193 640: 61% [██████] | 0 14/7
17/28 [17:11<02:28, 13.50s/it]

G 0.05585 0.06269 0.02815 193 640: 64% [██████] | 0 14/7
18/28 [17:11<01:59, 11.95s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05592 0.06337 0.0279 255 640: 64% [██████] | 0 14/7
18/28 [17:19<01:59, 11.95s/it]

G 0.05592 0.06337 0.0279 255 640: 68% [██████] | 0 14/7
19/28 [17:19<01:37, 10.80s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05567 0.06275 0.02791 160 640: 68% [██████] | 0 14/7
19/28 [17:27<01:37, 10.80s/it]

G 0.05567 0.06275 0.02791 160 640: 71% [██████] | 0 14/7
20/28 [17:27<01:20, 10.02s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05573 0.06367 0.02785 273 640: 71% [██████] | 0 14/7
20/28 [17:35<01:20, 10.02s/it]

G 0.05573 0.06367 0.02785 273 640: 75% [██████] | 0 14/7
21/28 [17:35<01:06, 9.46s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05563 0.0628 0.02825 112 640: 75% [██████] | 0 14/7
21/28 [17:43<01:06, 9.46s/it]

G 0.05563 0.0628 0.02825 112 640: 79% [██████] | 0 14/7
22/28 [17:43<00:54, 9.06s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05572 0.06288 0.02829 191 640: 79% [██████] | 0 14/7
22/28 [17:51<00:54, 9.06s/it]

G 0.05572 0.06288 0.02829 191 640: 82% [██████] | 0 14/7
23/28 [17:51<00:43, 8.75s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05583 0.06373 0.0282 240 640: 82% [██████] | 0 14/7
23/28 [17:59<00:43, 8.75s/it]

G 0.05583 0.06373 0.0282 240 640: 86% [██████] | 0 14/7
24/28 [17:59<00:34, 8.59s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05589 0.06318 0.02816 157 640: 86% [██████] | 0 14/7
24/28 [18:07<00:34, 8.59s/it]

G 0.05589 0.06318 0.02816 157 640: 89%|██████████| 0 14/7
25/28 [18:07<00:25, 8.38s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05591 0.06377 0.02795 268 640: 89%|██████████| 0 14/7
25/28 [18:15<00:25, 8.38s/it]

G 0.05591 0.06377 0.02795 268 640: 93%|██████████| 0 14/7
26/28 [18:15<00:16, 8.25s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05575 0.06349 0.02791 151 640: 93%|██████████| 0 14/7
26/28 [18:24<00:16, 8.25s/it]

G 0.05575 0.06349 0.02791 151 640: 96%|██████████| 0 14/7
27/28 [18:24<00:08, 8.23s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05567 0.06325 0.02793 181 640: 96%|██████████| 0 14/7
27/28 [18:32<00:08, 8.23s/it]

G 0.05567 0.06325 0.02793 181 640: 100%|██████████| 0 14/7
28/28 [18:32<00:00, 8.34s/it]

G 0.05567 0.06325 0.02793 181 640: 100%|██████████| 0 14/7
28/28 [18:32<00:00, 39.74s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]

Class Images Instances P R mAP50 mAP50-95: 25%|████| 1/4 [00:07<00:21, 7.12s/it]

Class Images Instances P R mAP50 mAP50-95:
50%|████| 2/4 [00:11<00:11, 5.77s/it]

Class Images Instances P R mAP50 mAP50-95:
75%|████| 3/4 [00:16<00:05, 5.28s/it]

Class Images Instances P R mAP50 mAP50-95:
100% [██████████] 4/4 [00:21<00:00, 5.24s/it]

Class Images Instances P R mAP50 mAP50-95:
100% [██████████] 4/4 [00:21<00:00, 5.46s/it]

all 127 909 0.674 0.313 0.249 0.0961

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | %0
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05578 0.06534 0.0214 223 640: 0%| 0/28 0 14/8
[00:08<?, ?it/s]

G 0.05578 0.06534 0.0214 223 640: 4%| 1/28 0 14/8
[00:08<03:54, 8.67s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05531 0.06692 0.02491 252 640: 4%| 1/28 0 14/8
[00:17<03:54, 8.67s/it]

G 0.05531 0.06692 0.02491 252 640: 7%| 2/28 0 14/8
[00:17<03:43, 8.60s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05601 0.07096 0.0263 263 640: 7%| 2/28 0 14/8
[00:26<03:43, 8.60s/it]

G 0.05601 0.07096 0.0263 263 640: 11%| 3/28 0 14/8
[00:26<03:37, 8.69s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05637 0.07267 0.02655 264 640: 11% [■] | 3/28 0 14/8
[00:34<03:37, 8.69s/it]

G 0.05637 0.07267 0.02655 264 640: 14% [■] | 4/28 0 14/8
[00:34<03:29, 8.73s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05622 0.07518 0.02608 277 640: 14% [■] | 4/28 0 14/8
[00:43<03:29, 8.73s/it]

G 0.05622 0.07518 0.02608 277 640: 18% [■] | 5/28 0 14/8
[00:43<03:22, 8.79s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05566 0.07343 0.02509 187 640: 18% [■] | 5/28 0 14/8
[00:52<03:22, 8.79s/it]

G 0.05566 0.07343 0.02509 187 640: 21% [■] | 6/28 0 14/8
[00:52<03:13, 8.79s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05543 0.07156 0.02522 207 640: 21% [■] | 6/28 0 14/8
[01:01<03:13, 8.79s/it]

G 0.05543 0.07156 0.02522 207 640: 25% [■] | 7/28 0 14/8
[01:01<03:05, 8.82s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05524 0.07155 0.02461 237 640: 25% [■] | 7/28 0 14/8
[01:10<03:05, 8.82s/it]

G 0.05524 0.07155 0.02461 237 640: 29% [■] | 8/28 0 14/8
[01:10<02:58, 8.92s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

```
G 0.05532 0.07168 0.02476    250    640: 29%█████ | 8/28 0      14/8
[01:19<02:58, 8.92s/it]

G 0.05532 0.07168 0.02476    250    640: 32%█████ | 9/28 0      14/8
[01:19<02:48, 8.86s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.05539 0.06997 0.02501    144    640: 32%█████ | 9/28 0      14/8
[01:28<02:48, 8.86s/it]

G 0.05539 0.06997 0.02501    144    640: 36%█████ | 10/28 0     14/8
[01:28<02:42, 9.01s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.05553 0.07153 0.02481    318    640: 36%█████ | 10/28 0     14/8
[01:37<02:42, 9.01s/it]

G 0.05553 0.07153 0.02481    318    640: 39%█████ | 11/28 0     14/8
[01:37<02:33, 9.04s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.05568 0.07147 0.0248     238    640: 39%█████ | 11/28 0     14/8
[01:46<02:33, 9.04s/it]

G 0.05568 0.07147 0.0248     238    640: 43%█████ | 12/28 0     14/8
[01:46<02:24, 9.04s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.05544 0.07023 0.02488    173    640: 43%█████ | 12/28 0     14/8
[01:55<02:24, 9.04s/it]
```

G 0.05544 0.07023 0.02488 173 640: 46% [REDACTED] | 13/28 0 14/8
[01:55<02:14, 8.95s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05536 0.06951 0.02514 187 640: 46% [REDACTED] | 13/28 0 14/8
[02:04<02:14, 8.95s/it]

G 0.05536 0.06951 0.02514 187 640: 50% [REDACTED] | 14/28 0 14/8
[02:04<02:04, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0555 0.06932 0.02502 221 640: 50% [REDACTED] | 14/28 0 14/8
[02:13<02:04, 8.87s/it]

G 0.0555 0.06932 0.02502 221 640: 54% [REDACTED] | 15/28 0 14/8
[02:13<01:55, 8.88s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05554 0.06861 0.02503 179 640: 54% [REDACTED] | 15/28 0 14/8
[02:21<01:55, 8.88s/it]

G 0.05554 0.06861 0.02503 179 640: 57% [REDACTED] | 0 14/8
16/28 [02:21<01:46, 8.88s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05545 0.06846 0.02473 216 640: 57% [REDACTED] | 0 14/8
16/28 [02:31<01:46, 8.88s/it]

G 0.05545 0.06846 0.02473 216 640: 61% [REDACTED] | 0 14/8
17/28 [02:31<01:38, 8.99s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05522 0.0676 0.02491 168 640: 61% [██████] | 17/28 0 14/8
[02:40<01:38, 8.99s/it]

G 0.05522 0.0676 0.02491 168 640: 64% [██████] | 0 14/8
18/28 [02:40<01:29, 8.95s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05518 0.0683 0.02493 239 640: 64% [██████] | 0 14/8
18/28 [02:48<01:29, 8.95s/it]

G 0.05518 0.0683 0.02493 239 640: 68% [██████] | 0 14/8
19/28 [02:48<01:20, 8.92s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05505 0.06709 0.02488 141 640: 68% [██████] | 0 14/8
19/28 [02:57<01:20, 8.92s/it]

G 0.05505 0.06709 0.02488 141 640: 71% [██████] | 0 14/8
20/28 [02:57<01:11, 8.95s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05499 0.06678 0.02495 179 640: 71% [██████] | 0 14/8
20/28 [03:06<01:11, 8.95s/it]

G 0.05499 0.06678 0.02495 179 640: 75% [██████] | 0 14/8
21/28 [03:06<01:02, 8.87s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05497 0.06676 0.02504 231 640: 75% [██████] | 0 14/8
21/28 [03:15<01:02, 8.87s/it]

G 0.05497 0.06676 0.02504 231 640: 79% [██████] | 0 14/8
22/28 [03:15<00:53, 8.85s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05495 0.06624 0.02502 186 640: 79%|██████████| 0 14/8
22/28 [03:24<00:53, 8.85s/it]

G 0.05495 0.06624 0.02502 186 640: 82%|██████████| 0 14/8
23/28 [03:24<00:44, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05489 0.06556 0.02496 168 640: 82%|██████████| 0 14/8
23/28 [03:32<00:44, 8.81s/it]

G 0.05489 0.06556 0.02496 168 640: 86%|██████████| 0 14/8
24/28 [03:32<00:35, 8.79s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05477 0.06595 0.02483 227 640: 86%|██████████| 0 14/8
24/28 [03:41<00:35, 8.79s/it]

G 0.05477 0.06595 0.02483 227 640: 89%|██████████| 0 14/8
25/28 [03:41<00:26, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0546 0.06629 0.02482 265 640: 89%|██████████| 0 14/8
25/28 [03:50<00:26, 8.81s/it]

G 0.0546 0.06629 0.02482 265 640: 93%|██████████| 0 14/8
26/28 [03:50<00:17, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05449 0.06552 0.02476 126 640: 93%|██████████| 0 14/8
26/28 [03:59<00:17, 8.87s/it]

G 0.05449 0.06552 0.02476 126 640: 96%|██████████| 0 14/8
27/28 [03:59<00:08, 8.84s/it]c:\Users\966650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05451 0.06516 0.02477 182 640: 96%|██████████| 0 14/8
27/28 [04:08<00:08, 8.84s/it]

G 0.05451 0.06516 0.02477 182 640: 100%|██████████| 0 14/8
28/28 [04:08<00:00, 8.84s/it]

G 0.05451 0.06516 0.02477 182 640: 100%|██████████| 0 14/8
28/28 [04:08<00:00, 8.87s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]

Class Images Instances P R mAP50 mAP50-95: 25%|████| 1
1/4 [00:06<00:19, 6.63s/it]

Class Images Instances P R mAP50 mAP50-95:
50%|████| 2/4 [00:11<00:11, 5.65s/it]

Class Images Instances P R mAP50 mAP50-95:
75%|████| 3/4 [00:16<00:05, 5.36s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|████| 4/4 [00:22<00:00, 5.38s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|████| 4/4 [00:22<00:00, 5.50s/it]

all 127 909 0.797 0.32 0.352 0.151

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\966650\Downloads\yolov5\train.py:414: 28/0 | 0%
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04791 0.06668 0.01929 200 640: 0%| 0/28 0 14/9
[00:09<?, ?it/s]

G 0.04791 0.06668 0.01929 200 640: 4%| 1/28 0 14/9
[00:09<04:06, 9.11s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04971 0.06619 0.02267 232 640: 4%| 1/28 0 14/9
[00:17<04:06, 9.11s/it]

G 0.04971 0.06619 0.02267 232 640: 7%| 2/28 0 14/9
[00:17<03:53, 8.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04999 0.06345 0.02329 183 640: 7%| 2/28 0 14/9
[00:26<03:53, 8.97s/it]

G 0.04999 0.06345 0.02329 183 640: 11%| 3/28 0 14/9
[00:26<03:44, 8.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05006 0.06238 0.02501 182 640: 11%| 3/28 0 14/9
[00:35<03:44, 8.97s/it]

G 0.05006 0.06238 0.02501 182 640: 14%| 4/28 0 14/9
[00:35<03:35, 8.96s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05057 0.06078 0.02523 151 640: 14%| 4/28 0 14/9
[00:44<03:35, 8.96s/it]

G 0.05057 0.06078 0.02523 151 640: 18%| 5/28 0 14/9
[00:44<03:25, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.051 0.06517 0.02469 265 640: 18% [0:53<03:25, 8.91s/it] | 5/28 0 14/9
G 0.051 0.06517 0.02469 265 640: 21% [0:53<03:16, 8.95s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.05095 0.0662 0.02404 236 640: 21% [01:02<03:16, 8.95s/it] | 6/28 0 14/9
G 0.05095 0.0662 0.02404 236 640: 25% [01:02<03:07, 8.93s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.05105 0.06525 0.02428 190 640: 25% [01:11<03:07, 8.93s/it] | 7/28 0 14/9
G 0.05105 0.06525 0.02428 190 640: 29% [01:11<02:58, 8.95s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.05074 0.06344 0.02409 153 640: 29% [01:20<02:58, 8.95s/it] | 8/28 0 14/9
G 0.05074 0.06344 0.02409 153 640: 32% [01:20<02:49, 8.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.05042 0.06229 0.02395 149 640: 32% [01:29<02:49, 8.90s/it] | 9/28 0 14/9
```

G 0.05042 0.06229 0.02395 149 640: 36% [██████] | 10/28 0 14/9
[01:29<02:39, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05101 0.06644 0.0234 364 640: 36% [██████] | 10/28 0 14/9
[01:38<02:39, 8.87s/it]

G 0.05101 0.06644 0.0234 364 640: 39% [██████] | 11/28 0 14/9
[01:38<02:30, 8.88s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05092 0.06541 0.02373 154 640: 39% [██████] | 11/28 0 14/9
[01:47<02:30, 8.88s/it]

G 0.05092 0.06541 0.02373 154 640: 43% [██████] | 12/28 0 14/9
[01:47<02:22, 8.88s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05074 0.06434 0.02432 146 640: 43% [██████] | 12/28 0 14/9
[01:56<02:22, 8.88s/it]

G 0.05074 0.06434 0.02432 146 640: 46% [██████] | 13/28 0 14/9
[01:56<02:14, 8.96s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05092 0.06483 0.02434 247 640: 46% [██████] | 13/28 0 14/9
[02:05<02:14, 8.96s/it]

G 0.05092 0.06483 0.02434 247 640: 50% [██████] | 14/28 0 14/9
[02:05<02:07, 9.10s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.05088 0.06439 0.02458 176 640: 50% [██████] | 14/28 0 14/9
[02:14<02:07, 9.10s/it]

G 0.05088 0.06439 0.02458 176 640: 54% [██████] | 15/28 0 14/9
[02:14<01:58, 9.13s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.051 0.06467 0.02457 222 640: 54% [██████] | 15/28 0 14/9
[02:24<01:58, 9.13s/it]

G 0.051 0.06467 0.02457 222 640: 57% [██████] | 16/28 0 14/9
[02:24<01:50, 9.18s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.051 0.06418 0.02449 167 640: 57% [██████] | 16/28 0 14/9
[02:32<01:50, 9.18s/it]

G 0.051 0.06418 0.02449 167 640: 61% [██████] | 17/28 0 14/9
[02:32<01:40, 9.10s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05096 0.06323 0.02476 136 640: 61% [██████] | 0 14/9
17/28 [02:41<01:40, 9.10s/it]

G 0.05096 0.06323 0.02476 136 640: 64% [██████] | 0 14/9
18/28 [02:41<01:30, 9.02s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0512 0.06312 0.02466 238 640: 64% [██████] | 0 14/9
18/28 [02:50<01:30, 9.02s/it]

G 0.0512 0.06312 0.02466 238 640: 68% [██████] | 0 14/9
19/28 [02:50<01:20, 8.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05112 0.06296 0.0245 177 640: 68% [██████] | 0 14/9
19/28 [02:59<01:20, 8.97s/it]

G 0.05112 0.06296 0.0245 177 640: 71% [██████] | 0 14/9
20/28 [02:59<01:11, 8.97s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05113 0.06327 0.02447 227 640: 71% [██████] | 0 14/9
20/28 [03:08<01:11, 8.97s/it]

G 0.05113 0.06327 0.02447 227 640: 75% [██████] | 0 14/9
21/28 [03:08<01:03, 9.00s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05108 0.06284 0.02406 164 640: 75% [██████] | 0 14/9
21/28 [03:17<01:03, 9.00s/it]

G 0.05108 0.06284 0.02406 164 640: 79% [██████] | 0 14/9
22/28 [03:17<00:54, 9.06s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05092 0.06253 0.02417 158 640: 79% [██████] | 0 14/9
22/28 [03:26<00:54, 9.06s/it]

G 0.05092 0.06253 0.02417 158 640: 82% [██████] | 0 14/9
23/28 [03:26<00:45, 9.02s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05082 0.063 0.02417 241 640: 82%|██████████| 0 14/9

23/28 [03:35<00:45, 9.02s/it]

G 0.05082 0.063 0.02417 241 640: 86%|██████████| 0 14/9

24/28 [03:35<00:35, 8.98s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05087 0.06269 0.02418 169 640: 86%|██████████| 0 14/9

24/28 [03:44<00:35, 8.98s/it]

G 0.05087 0.06269 0.02418 169 640: 89%|██████████| 0 14/9

25/28 [03:44<00:26, 8.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05093 0.06316 0.02399 259 640: 89%|██████████| 0 14/9

25/28 [03:53<00:26, 8.90s/it]

G 0.05093 0.06316 0.02399 259 640: 93%|██████████| 0 14/9

26/28 [03:53<00:17, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05118 0.06283 0.02378 200 640: 93%|██████████| 0 14/9

26/28 [04:01<00:17, 8.87s/it]

G 0.05118 0.06283 0.02378 200 640: 96%|██████████| 0 14/9

27/28 [04:01<00:08, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05115 0.06315 0.02372 241 640: 96%|██████████| 0 14/9

27/28 [04:10<00:08, 8.83s/it]

G 0.05115 0.06315 0.02372 241 640: 100%|██████████| 0 14/9

28/28 [04:10<00:00, 8.83s/it]

G 0.05115 0.06315 0.02372 241 640: 100%|██████████| 0 14/9
28/28 [04:10<00:00, 8.96s/it]

| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 0% | 0/4 |
|-------|--------|-----------|-------|-------|-------|-----------|----|---|
| | | | | | | | | [00:00<?, ?it/s] |
| | | | | | | | | 1/4 [00:06<00:20, 6.74s/it] |
| | | | | | | | | Class Images Instances P R mAP50 mAP50-95: 50% █████ 2/4 [00:11<00:11, 5.66s/it] |
| | | | | | | | | Class Images Instances P R mAP50 mAP50-95: 75% ██████ 3/4 [00:16<00:05, 5.31s/it] |
| | | | | | | | | Class Images Instances P R mAP50 mAP50-95: 100% ██████████ 4/4 [00:21<00:00, 5.32s/it] |
| | | | | | | | | Class Images Instances P R mAP50 mAP50-95: 100% ██████████ 4/4 [00:21<00:00, 5.47s/it] |
| all | 127 | 909 | 0.305 | 0.471 | 0.341 | 0.143 | | |

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | | %0 FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use .`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.05283 0.0774 0.01701 239 640: 0%| 0/28 0 14/10
[00:08<?, ?it/s]

G 0.05283 0.0774 0.01701 239 640: 4%| 1/28 0 14/10
[00:08<03:57, 8.79s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use .`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04955 0.06083 0.02148 137 640: 4%| 1/28 0 14/10
[00:17<03:57, 8.79s/it]

G 0.04955 0.06083 0.02148 137 640: 7%| 2/28 0 14/10
[00:17<03:51, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:

`torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04988 0.06424 0.02238 228 640: 7%|█████ | 2/28 0 14/10
[00:26<03:51, 8.91s/it]

G 0.04988 0.06424 0.02238 228 640: 11%|██████ | 3/28 0 14/10
[00:26<03:41, 8.86s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04898 0.06005 0.02336 143 640: 11%|██████ | 3/28 0 14/10
[00:35<03:41, 8.86s/it]

G 0.04898 0.06005 0.02336 143 640: 14%|██████ | 4/28 0 14/10
[00:35<03:37, 9.08s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04916 0.05829 0.02315 145 640: 14%|██████ | 4/28 0 14/10
[00:44<03:37, 9.08s/it]

G 0.04916 0.05829 0.02315 145 640: 18%|██████ | 5/28 0 14/10
[00:44<03:27, 9.01s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04921 0.06312 0.02294 258 640: 18%|██████ | 5/28 0 14/10
[00:53<03:27, 9.01s/it]

G 0.04921 0.06312 0.02294 258 640: 21%|██████ | 6/28 0 14/10
[00:53<03:15, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
'torch.cuda.amp.autocast(args...)` is deprecated. Please use
.`torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04925 0.06303 0.0223 194 640: 21% [██████] | 6/28 0 14/10
[01:02<03:15, 8.89s/it]

G 0.04925 0.06303 0.0223 194 640: 25% [██████] | 7/28 0 14/10
[01:02<03:06, 8.88s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04934 0.06304 0.0221 209 640: 25% [██████] | 7/28 0 14/10
[01:11<03:06, 8.88s/it]

G 0.04934 0.06304 0.0221 209 640: 29% [██████] | 8/28 0 14/10
[01:11<02:57, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04909 0.06272 0.02289 214 640: 29% [██████] | 8/28 0 14/10
[01:20<02:57, 8.87s/it]

G 0.04909 0.06272 0.02289 214 640: 32% [██████] | 9/28 0 14/10
[01:20<02:47, 8.84s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04918 0.06334 0.0233 207 640: 32% [██████] | 9/28 0 14/10
[01:28<02:47, 8.84s/it]

G 0.04918 0.06334 0.0233 207 640: 36% [██████] | 10/28 0 14/10
[01:28<02:38, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04887 0.06214 0.02346 150 640: 36% [██████] | 10/28 0 14/10
[01:37<02:38, 8.83s/it]

G 0.04887 0.06214 0.02346 150 640: 39% [██████] | 11/28 0 14/10
[01:37<02:29, 8.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

```
G 0.04897 0.06285 0.0234    247    640: 39%██████ | 11/28 0      14/10
[01:46<02:29, 8.82s/it]

G 0.04897 0.06285 0.0234    247    640: 43%██████ | 12/28 0      14/10
[01:46<02:20, 8.78s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.04905 0.06237 0.02332   184    640: 43%██████ | 12/28 0      14/10
[01:55<02:20, 8.78s/it]

G 0.04905 0.06237 0.02332   184    640: 46%██████ | 13/28 0      14/10
[01:55<02:11, 8.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.0489 0.06196 0.02364   151    640: 46%██████ | 13/28 0      14/10
[02:03<02:11, 8.77s/it]

G 0.0489 0.06196 0.02364   151    640: 50%██████ | 14/28 0      14/10
[02:03<02:02, 8.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.04896 0.06141 0.0237   161    640: 50%██████ | 14/28 0      14/10
[02:12<02:02, 8.77s/it]

G 0.04896 0.06141 0.0237   161    640: 54%██████ | 15/28 0      14/10
[02:12<01:55, 8.86s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

:with torch.cuda.amp.autocast(amp)

```
G 0.04891 0.06287 0.02366   272    640: 54%██████ | 0       14/10
15/28 [02:22<01:55, 8.86s/it]
```

G 0.04891 0.06287 0.02366 272 640: 57%|███████ | 0 14/10
16/28 [02:22<01:48, 9.03s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04905 0.06278 0.02377 213 640: 57%|███████ | 0 14/10
16/28 [02:32<01:48, 9.03s/it]

G 0.04905 0.06278 0.02377 213 640: 61%|███████ | 0 14/10
17/28 [02:32<01:42, 9.29s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04889 0.06262 0.0234 181 640: 61%|███████ | 0 14/10
17/28 [02:42<01:42, 9.29s/it]

G 0.04889 0.06262 0.0234 181 640: 64%|███████ | 0 14/10
18/28 [02:42<01:35, 9.51s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04895 0.06246 0.02348 186 640: 64%|███████ | 0 14/10
18/28 [02:51<01:35, 9.51s/it]

G 0.04895 0.06246 0.02348 186 640: 68%|███████ | 0 14/10
19/28 [02:51<01:24, 9.38s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04902 0.06304 0.02313 272 640: 68%|███████ | 0 14/10
19/28 [03:00<01:24, 9.38s/it]

G 0.04902 0.06304 0.02313 272 640: 71%|███████ | 0 14/10
20/28 [03:00<01:13, 9.19s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0489 0.063 0.02309 191 640: 71% [██████] | 20/28 0 14/10
[03:08<01:13, 9.19s/it]

G 0.0489 0.063 0.02309 191 640: 75% [██████] | 0 14/10
21/28 [03:08<01:03, 9.06s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04909 0.06304 0.02315 237 640: 75% [██████] | 0 14/10
21/28 [03:17<01:03, 9.06s/it]

G 0.04909 0.06304 0.02315 237 640: 79% [██████] | 0 14/10
22/28 [03:17<00:53, 8.97s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04896 0.06205 0.02311 121 640: 79% [██████] | 0 14/10
22/28 [03:26<00:53, 8.97s/it]

G 0.04896 0.06205 0.02311 121 640: 82% [██████] | 0 14/10
23/28 [03:26<00:45, 9.02s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04887 0.0618 0.02306 160 640: 82% [██████] | 0 14/10
23/28 [03:35<00:45, 9.02s/it]

G 0.04887 0.0618 0.02306 160 640: 86% [██████] | 0 14/10
24/28 [03:35<00:36, 9.06s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04896 0.06146 0.02322 169 640: 86% [██████] | 0 14/10
24/28 [03:44<00:36, 9.06s/it]

G 0.04896 0.06146 0.02322 169 640: 89% [██████] | 0 14/10
25/28 [03:44<00:26, 8.99s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04902 0.06167 0.02321 213 640: 89%|██████████| 0 14/10
25/28 [03:53<00:26, 8.99s/it]

G 0.04902 0.06167 0.02321 213 640: 93%|██████████| 0 14/10
26/28 [03:53<00:17, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04901 0.06214 0.02312 248 640: 93%|██████████| 0 14/10
26/28 [04:02<00:17, 8.91s/it]

G 0.04901 0.06214 0.02312 248 640: 96%|██████████| 0 14/10
27/28 [04:02<00:08, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04899 0.06175 0.02294 172 640: 96%|██████████| 0 14/10
27/28 [04:11<00:08, 8.87s/it]

G 0.04899 0.06175 0.02294 172 640: 0 14/10
100%|██████████| 28/28 [04:11<00:00, 8.86s/it]

G 0.04899 0.06175 0.02294 172 640: 0 14/10
100%|██████████| 28/28 [04:11<00:00, 8.97s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]

Class Images Instances P R mAP50 mAP50-95: 25%|████| 1/4 [00:06<00:19, 6.59s/it]

Class Images Instances P R mAP50 mAP50-95:
50%|████| 2/4 [00:11<00:11, 5.61s/it]

Class Images Instances P R mAP50 mAP50-95:
75%|████| 3/4 [00:16<00:05, 5.24s/it]

Class Images Instances P R mAP50 mAP50-95:
100%|████| 4/4 [00:21<00:00, 5.04s/it]

| Class | Images | Instances | P | R | mAP50 | mAP50-95: |
|-------|------------|-----------|-------------------------|-------|-------|-----------|
| 100% | [REDACTED] | 4/4 | [00:21<00:00, 5.27s/it] | | | |
| all | 127 | 909 | 0.459 | 0.438 | 0.415 | 0.201 |

| Epoch | GPU_mem | box_loss | obj_loss | cls_loss | Instances | Size |
|-------|---------|----------|----------|----------|-----------|------|
|-------|---------|----------|----------|----------|-----------|------|

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | %0
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04899 0.07197 0.02065 242 640: 0%| 0/28 0 14/11
[00:09<?, ?it/s]

G 0.04899 0.07197 0.02065 242 640: 4%| 1/28 0 14/11
[00:09<04:21, 9.70s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04823 0.06964 0.02322 211 640: 4%| 1/28 0 14/11
[00:18<04:21, 9.70s/it]

G 0.04823 0.06964 0.02322 211 640: 7%| 2/28 0 14/11
[00:18<03:56, 9.09s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04817 0.07046 0.02234 244 640: 7%| 2/28 0 14/11
[00:26<03:56, 9.09s/it]

G 0.04817 0.07046 0.02234 244 640: 11%| 3/28 0 14/11
[00:26<03:41, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04723 0.0654 0.02129 159 640: 11%| 3/28 0 14/11
[00:35<03:41, 8.87s/it]

G 0.04723 0.0654 0.02129 159 640: 14% [██████] | 4/28 0 14/11
[00:35<03:31, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0467 0.06469 0.02117 230 640: 14% [██████] | 4/28 0 14/11
[00:44<03:31, 8.83s/it]

G 0.0467 0.06469 0.02117 230 640: 18% [██████] | 5/28 0 14/11
[00:44<03:21, 8.78s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0458 0.06163 0.02143 130 640: 18% [██████] | 5/28 0 14/11
[00:53<03:21, 8.78s/it]

G 0.0458 0.06163 0.02143 130 640: 21% [██████] | 6/28 0 14/11
[00:53<03:17, 8.97s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04592 0.06395 0.02084 253 640: 21% [██████] | 6/28 0 14/11
[01:02<03:17, 8.97s/it]

G 0.04592 0.06395 0.02084 253 640: 25% [██████] | 7/28 0 14/11
[01:02<03:09, 9.03s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04579 0.06391 0.02047 208 640: 25% [██████] | 7/28 0 14/11
[01:11<03:09, 9.03s/it]

G 0.04579 0.06391 0.02047 208 640: 29% [██████] | 8/28 0 14/11
[01:11<02:59, 9.00s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04554 0.06401 0.02099 192 640: 29% [██████] | 8/28 0 14/11
[01:21<02:59, 9.00s/it]

G 0.04554 0.06401 0.02099 192 640: 32% [██████] | 9/28 0 14/11
[01:21<02:52, 9.05s/it] c:\Users\966650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04517 0.06298 0.0212 147 640: 32% [██████] | 9/28 0 14/11
[01:29<02:52, 9.05s/it]

G 0.04517 0.06298 0.0212 147 640: 36% [██████] | 10/28 0 14/11
[01:29<02:41, 8.97s/it] c:\Users\966650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04555 0.06172 0.02127 162 640: 36% [██████] | 10/28 0 14/11
[01:38<02:41, 8.97s/it]

G 0.04555 0.06172 0.02127 162 640: 39% [██████] | 11/28 0 14/11
[01:38<02:31, 8.91s/it] c:\Users\966650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04585 0.06218 0.0213 218 640: 39% [██████] | 11/28 0 14/11
[01:47<02:31, 8.91s/it]

G 0.04585 0.06218 0.0213 218 640: 43% [██████] | 12/28 0 14/11
[01:47<02:22, 8.88s/it] c:\Users\966650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04579 0.0608 0.02128 146 640: 43% [██████] | 12/28 0 14/11
[01:56<02:22, 8.88s/it]

G 0.04579 0.0608 0.02128 146 640: 46% [██████] | 13/28 0 14/11
[01:56<02:12, 8.82s/it] c:\Users\966650\Downloads\yolov5\train.py:414: FutureWarning:

`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04621 0.06111 0.02141 205 640: 46% [██████] | 13/28 0 14/11
[02:04<02:12, 8.82s/it]

G 0.04621 0.06111 0.02141 205 640: 50% [██████] | 0 14/11
14/28 [02:04<02:03, 8.80s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04627 0.06176 0.02116 246 640: 50% [██████] | 0 14/11
14/28 [02:13<02:03, 8.80s/it]

G 0.04627 0.06176 0.02116 246 640: 54% [██████] | 0 14/11
15/28 [02:13<01:53, 8.76s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04626 0.06075 0.02123 139 640: 54% [██████] | 0 14/11
15/28 [02:22<01:53, 8.76s/it]

G 0.04626 0.06075 0.02123 139 640: 57% [██████] | 0 14/11
16/28 [02:22<01:45, 8.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04626 0.06114 0.02101 211 640: 57% [██████] | 0 14/11
16/28 [02:30<01:45, 8.77s/it]

G 0.04626 0.06114 0.02101 211 640: 61% [██████] | 0 14/11
17/28 [02:30<01:36, 8.75s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04634 0.06204 0.02087 232 640: 61% [██████] | 0 14/11
17/28 [02:39<01:36, 8.75s/it]

G 0.04634 0.06204 0.02087 232 640: 64% [██████] | 0 14/11
18/28 [02:39<01:27, 8.78s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04656 0.06233 0.02087 264 640: 64% [██████] | 0 14/11
18/28 [02:49<01:27, 8.78s/it]

G 0.04656 0.06233 0.02087 264 640: 68% [██████] | 0 14/11
19/28 [02:49<01:21, 9.00s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04659 0.06262 0.02065 215 640: 68% [██████] | 0 14/11
19/28 [02:58<01:21, 9.00s/it]

G 0.04659 0.06262 0.02065 215 640: 71% [██████] | 0 14/11
20/28 [02:58<01:12, 9.01s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04654 0.06242 0.02083 195 640: 71% [██████] | 0 14/11
20/28 [03:07<01:12, 9.01s/it]

G 0.04654 0.06242 0.02083 195 640: 75% [██████] | 0 14/11
21/28 [03:07<01:02, 8.98s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04648 0.06189 0.0209 161 640: 75% [██████] | 0 14/11
21/28 [03:16<01:02, 8.98s/it]

G 0.04648 0.06189 0.0209 161 640: 79% [██████] | 0 14/11
22/28 [03:16<00:53, 8.92s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04655 0.06181 0.02083 198 640: 79%|██████████| 0 14/11
22/28 [03:24<00:53, 8.92s/it]

G 0.04655 0.06181 0.02083 198 640: 82%|██████████| 0 14/11
23/28 [03:24<00:44, 8.85s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04661 0.06139 0.02096 166 640: 82%|██████████| 0 14/11
23/28 [03:33<00:44, 8.85s/it]

G 0.04661 0.06139 0.02096 166 640: 86%|██████████| 0 14/11
24/28 [03:33<00:35, 8.84s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04668 0.06126 0.02083 206 640: 86%|██████████| 0 14/11
24/28 [03:42<00:35, 8.84s/it]

G 0.04668 0.06126 0.02083 206 640: 89%|██████████| 0 14/11
25/28 [03:42<00:26, 8.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04677 0.06085 0.02094 155 640: 89%|██████████| 0 14/11
25/28 [03:51<00:26, 8.77s/it]

G 0.04677 0.06085 0.02094 155 640: 93%|██████████| 0 14/11
26/28 [03:51<00:17, 8.85s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04675 0.06068 0.02088 187 640: 93%|██████████| 0 14/11
26/28 [04:00<00:17, 8.85s/it]

G 0.04675 0.06068 0.02088 187 640: 96%|██████████| 0 14/11
27/28 [04:00<00:08, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04666 0.05989 0.02107 119 640: 96%|██████████| 0 14/11
27/28 [04:09<00:08, 8.89s/it]
G 0.04666 0.05989 0.02107 119 640: 0 14/11
100%|██████████| 28/28 [04:09<00:00, 8.89s/it]
G 0.04666 0.05989 0.02107 119 640: 0 14/11
100%|██████████| 28/28 [04:09<00:00, 8.90s/it]

Class Images Instances P R mAP50 mAP50-95: 0%| 0/4
[00:00<?, ?it/s]
Class Images Instances P R mAP50 mAP50-95: 25%|████ |
1/4 [00:06<00:19, 6.48s/it]
Class Images Instances P R mAP50 mAP50-95:
50%|████ | 2/4 [00:11<00:10, 5.50s/it]
Class Images Instances P R mAP50 mAP50-95:
75%|████ | 3/4 [00:16<00:05, 5.20s/it]
Class Images Instances P R mAP50 mAP50-95:
100%|████ | 4/4 [00:21<00:00, 5.27s/it]
Class Images Instances P R mAP50 mAP50-95:
100%|████ | 4/4 [00:21<00:00, 5.38s/it]
all 127 909 0.54 0.393 0.419 0.191

Epoch GPU_mem box_loss obj_loss cls_loss Instances Size

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | 0%
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04512 0.07403 0.02351 226 640: 0%| 0/28 0 14/12
[00:08<?, ?it/s]

G 0.04512 0.07403 0.02351 226 640: 4%|█████ | 1/28 0 14/12
[00:08<04:02, 9.00s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04538 0.065 0.02038 184 640: 4%|█████ | 1/28 0 14/12
[00:17<04:02, 9.00s/it]

G 0.04538 0.065 0.02038 184 640: 7%|█████ | 2/28 0 14/12
[00:17<03:51, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04539 0.06461 0.02189 211 640: 7%|█████ | 2/28 0 14/12
[00:26<03:51, 8.91s/it]

G 0.04539 0.06461 0.02189 211 640: 11%|█████ | 3/28 0 14/12
[00:26<03:40, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04613 0.06377 0.02081 183 640: 11%|█████ | 3/28 0 14/12
[00:35<03:40, 8.83s/it]

G 0.04613 0.06377 0.02081 183 640: 14%|█████ | 4/28 0 14/12
[00:35<03:32, 8.85s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04649 0.06431 0.02089 229 640: 14%|█████ | 4/28 0 14/12
[00:44<03:32, 8.85s/it]

G 0.04649 0.06431 0.02089 229 640: 18%|█████ | 5/28 0 14/12
[00:44<03:23, 8.84s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04567 0.06437 0.02037 205 640: 18% [██████] | 5/28 0 14/12
[00:52<03:23, 8.84s/it]

G 0.04567 0.06437 0.02037 205 640: 21% [██████] | 6/28 0 14/12
[00:52<03:13, 8.79s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04514 0.06217 0.02115 174 640: 21% [██████] | 6/28 0 14/12
[01:01<03:13, 8.79s/it]

G 0.04514 0.06217 0.02115 174 640: 25% [██████] | 7/28 0 14/12
[01:01<03:05, 8.83s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04508 0.06051 0.02161 153 640: 25% [██████] | 7/28 0 14/12
[01:10<03:05, 8.83s/it]

G 0.04508 0.06051 0.02161 153 640: 29% [██████] | 8/28 0 14/12
[01:10<02:57, 8.85s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04488 0.0603 0.02206 215 640: 29% [██████] | 8/28 0 14/12
[01:19<02:57, 8.85s/it]

G 0.04488 0.0603 0.02206 215 640: 32% [██████] | 9/28 0 14/12
[01:19<02:47, 8.83s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04529 0.05992 0.02213 189 640: 32% [██████] | 9/28 0 14/12
[01:28<02:47, 8.83s/it]

G 0.04529 0.05992 0.02213 189 640: 36% [██████] | 10/28 0 14/12
[01:28<02:39, 8.83s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:

`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.0452 0.05989 0.02204 204 640: 36% [██████] | 10/28 0 14/12
[01:37<02:39, 8.83s/it]

G 0.0452 0.05989 0.02204 204 640: 39% [██████] | 11/28 0 14/12
[01:37<02:29, 8.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04547 0.05991 0.02178 206 640: 39% [██████] | 11/28 0 14/12
[01:46<02:29, 8.82s/it]

G 0.04547 0.05991 0.02178 206 640: 43% [██████] | 12/28 0 14/12
[01:46<02:22, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04548 0.05939 0.02172 160 640: 43% [██████] | 12/28 0 14/12
[01:54<02:22, 8.89s/it]

G 0.04548 0.05939 0.02172 160 640: 46% [██████] | 13/28 0 14/12
[01:54<02:12, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04545 0.0601 0.02179 227 640: 46% [██████] | 13/28 0 14/12
[02:03<02:12, 8.81s/it]

G 0.04545 0.0601 0.02179 227 640: 50% [██████] | 14/28 0 14/12
[02:03<02:02, 8.78s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04558 0.05931 0.02175 158 640: 50% [██████] | 0 14/12
14/28 [02:12<02:02, 8.78s/it]

G 0.04558 0.05931 0.02175 158 640: 54% [██████] | 0 14/12
15/28 [02:12<01:54, 8.78s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04548 0.05891 0.02156 161 640: 54% [██████] | 0 14/12
15/28 [02:21<01:54, 8.78s/it]

G 0.04548 0.05891 0.02156 161 640: 57% [██████] | 0 14/12
16/28 [02:21<01:45, 8.76s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04541 0.0599 0.02133 238 640: 57% [██████] | 0 14/12
16/28 [02:29<01:45, 8.76s/it]

G 0.04541 0.0599 0.02133 238 640: 61% [██████] | 0 14/12
17/28 [02:29<01:36, 8.75s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0454 0.05957 0.0211 177 640: 61% [██████] | 17/28 0 14/12
[02:38<01:36, 8.75s/it]

G 0.0454 0.05957 0.0211 177 640: 64% [██████] | 18/28 0 14/12
[02:38<01:27, 8.76s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04537 0.0593 0.02128 167 640: 64% [██████] | 0 14/12
18/28 [02:47<01:27, 8.76s/it]

G 0.04537 0.0593 0.02128 167 640: 68% [██████] | 0 14/12
19/28 [02:47<01:18, 8.73s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04545 0.06127 0.02114 308 640: 68%|██████████| 0 14/12
19/28 [02:56<01:18, 8.73s/it]

G 0.04545 0.06127 0.02114 308 640: 71%|██████████| 0 14/12
20/28 [02:56<01:10, 8.75s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04539 0.06189 0.02108 259 640: 71%|██████████| 0 14/12
20/28 [03:04<01:10, 8.75s/it]

G 0.04539 0.06189 0.02108 259 640: 75%|██████████| 0 14/12
21/28 [03:04<01:01, 8.76s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04537 0.06257 0.02109 279 640: 75%|██████████| 0 14/12
21/28 [03:13<01:01, 8.76s/it]

G 0.04537 0.06257 0.02109 279 640: 79%|██████████| 0 14/12
22/28 [03:13<00:52, 8.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04518 0.06219 0.02105 144 640: 79%|██████████| 0 14/12
22/28 [03:22<00:52, 8.82s/it]

G 0.04518 0.06219 0.02105 144 640: 82%|██████████| 0 14/12
23/28 [03:22<00:44, 8.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04505 0.06198 0.02087 193 640: 82%|██████████| 0 14/12
23/28 [03:31<00:44, 8.82s/it]

G 0.04505 0.06198 0.02087 193 640: 86%|██████████| 0 14/12
24/28 [03:31<00:35, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04512 0.06124 0.02091 133 640: 86%|██████████| 0 14/12
24/28 [03:40<00:35, 8.89s/it]

G 0.04512 0.06124 0.02091 133 640: 89%|██████████| 0 14/12
25/28 [03:40<00:26, 8.90s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04519 0.06107 0.02073 172 640: 89%|██████████| 0 14/12
25/28 [03:49<00:26, 8.90s/it]

G 0.04519 0.06107 0.02073 172 640: 93%|██████████| 0 14/12
26/28 [03:49<00:17, 8.86s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04511 0.06081 0.0207 172 640: 93%|██████████| 0 14/12
26/28 [03:57<00:17, 8.86s/it]

G 0.04511 0.06081 0.0207 172 640: 96%|██████████| 0 14/12
27/28 [03:57<00:08, 8.80s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04514 0.06136 0.02072 242 640: 96%|██████████| 0 14/12
27/28 [04:06<00:08, 8.80s/it]

G 0.04514 0.06136 0.02072 242 640: 0 14/12
100%|██████████| 28/28 [04:06<00:00, 8.77s/it]

G 0.04514 0.06136 0.02072 242 640: 0 14/12
100%|██████████| 28/28 [04:06<00:00, 8.81s/it]

| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 0% | 0/4 |
|-----------------------------|--------|-----------|-------|-------|-------|-----------|------|--------------------------------------|
| [00:00<?, ?it/s] | | | | | | | | |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 25% | ██████ |
| 1/4 [00:06<00:18, 6.33s/it] | | | | | | | | |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 50% | ██████ 2/4 [00:11<00:10, 5.43s/it] |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 75% | ██████ 3/4 [00:16<00:05, 5.23s/it] |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 100% | ██████ 4/4 [00:20<00:00, 5.04s/it] |
| Class | Images | Instances | P | R | mAP50 | mAP50-95: | 100% | ██████ 4/4 [00:20<00:00, 5.21s/it] |
| all | 127 | 909 | 0.691 | 0.415 | 0.457 | 0.218 | | |

| Epoch | GPU_mem | box_loss | obj_loss | cls_loss | Instances | Size |
|---|---------|----------|----------|----------|-----------|------|
| [00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 %0 | | | | | | |
| FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use | | | | | | |
| .`torch.amp.autocast('cuda', args...)` instead | | | | | | |
| :with torch.cuda.amp.autocast(amp) | | | | | | |
| G 0.04293 0.0598 0.01834 216 640: 0% 0/28 0 14/13 | | | | | | |
| [00:09<?, ?it/s] | | | | | | |
| G 0.04293 0.0598 0.01834 216 640: 4% 1/28 0 14/13 | | | | | | |
| [00:09<04:04, 9.06s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: | | | | | | |
| `torch.cuda.amp.autocast(args...)` is deprecated. Please use | | | | | | |
| .`torch.amp.autocast('cuda', args...)` instead | | | | | | |
| :with torch.cuda.amp.autocast(amp) | | | | | | |
| G 0.04433 0.05816 0.01823 188 640: 4% 1/28 0 14/13 | | | | | | |
| [00:17<04:04, 9.06s/it] | | | | | | |
| G 0.04433 0.05816 0.01823 188 640: 7%█ 2/28 0 14/13 | | | | | | |
| [00:17<03:52, 8.95s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning: | | | | | | |
| `torch.cuda.amp.autocast(args...)` is deprecated. Please use | | | | | | |
| .`torch.amp.autocast('cuda', args...)` instead | | | | | | |
| :with torch.cuda.amp.autocast(amp) | | | | | | |

G 0.04467 0.05971 0.01814 202 640: 7% [■] | 2/28 0 14/13
[00:26<03:52, 8.95s/it]

G 0.04467 0.05971 0.01814 202 640: 11% [■] | 3/28 0 14/13
[00:26<03:42, 8.89s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04426 0.05963 0.01779 175 640: 11% [■] | 3/28 0 14/13
[00:35<03:42, 8.89s/it]

G 0.04426 0.05963 0.01779 175 640: 14% [■] | 4/28 0 14/13
[00:35<03:33, 8.90s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0445 0.05908 0.01866 189 640: 14% [■] | 4/28 0 14/13
[00:44<03:33, 8.90s/it]

G 0.0445 0.05908 0.01866 189 640: 18% [■] | 5/28 0 14/13
[00:44<03:23, 8.85s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04444 0.05786 0.01866 171 640: 18% [■] | 5/28 0 14/13
[00:53<03:23, 8.85s/it]

G 0.04444 0.05786 0.01866 171 640: 21% [■] | 6/28 0 14/13
[00:53<03:15, 8.88s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04545 0.06165 0.01864 312 640: 21% [■] | 6/28 0 14/13
[01:02<03:15, 8.88s/it]

G 0.04545 0.06165 0.01864 312 640: 25% [■] | 7/28 0 14/13
[01:02<03:07, 8.91s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04519 0.06202 0.01888    226    640: 25%|██████| 7/28 0      14/13
[01:11<03:07, 8.91s/it]

G 0.04519 0.06202 0.01888    226    640: 29%|██████| 8/28 0      14/13
[01:11<02:57, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04521 0.06203 0.01894    231    640: 29%|██████| 8/28 0      14/13
[01:19<02:57, 8.87s/it]

G 0.04521 0.06203 0.01894    231    640: 32%|██████| 9/28 0      14/13
[01:19<02:47, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04515 0.06057 0.01948    124    640: 32%|██████| 9/28 0      14/13
[01:28<02:47, 8.83s/it]

G 0.04515 0.06057 0.01948    124    640: 36%|██████| 10/28 0     14/13
[01:28<02:40, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04487 0.06076 0.01905    204    640: 36%|██████| 10/28 0     14/13
[01:37<02:40, 8.91s/it]

G 0.04487 0.06076 0.01905    204    640: 39%|██████| 11/28 0     14/13
[01:37<02:30, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`.torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04501 0.06223 0.01921    251    640: 39%|██████| 11/28 0     14/13
[01:46<02:30, 8.87s/it]
```

G 0.04501 0.06223 0.01921 251 640: 43% [REDACTED] | 12/28 0 14/13
[01:46<02:21, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04499 0.0608 0.01931 123 640: 43% [REDACTED] | 12/28 0 14/13
[01:56<02:21, 8.87s/it]

G 0.04499 0.0608 0.01931 123 640: 46% [REDACTED] | 13/28 0 14/13
[01:56<02:16, 9.12s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0448 0.06015 0.01919 154 640: 46% [REDACTED] | 13/28 0 14/13
[02:05<02:16, 9.12s/it]

G 0.0448 0.06015 0.01919 154 640: 50% [REDACTED] | 14/28 0 14/13
[02:05<02:06, 9.04s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04475 0.06018 0.01901 221 640: 50% [REDACTED] | 0 14/13
14/28 [02:13<02:06, 9.04s/it]

G 0.04475 0.06018 0.01901 221 640: 54% [REDACTED] | 0 14/13
15/28 [02:13<01:56, 8.98s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04482 0.06109 0.01897 277 640: 54% [REDACTED] | 0 14/13
15/28 [02:22<01:56, 8.98s/it]

G 0.04482 0.06109 0.01897 277 640: 57% [REDACTED] | 0 14/13
16/28 [02:22<01:46, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04479 0.06116 0.01903 183 640: 57%|███████ | 0 14/13
16/28 [02:31<01:46, 8.91s/it]

G 0.04479 0.06116 0.01903 183 640: 61%|███████ | 0 14/13
17/28 [02:31<01:37, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04458 0.061 0.01933 198 640: 61%|███████ | 17/28 0 14/13
[02:40<01:37, 8.87s/it]

G 0.04458 0.061 0.01933 198 640: 64%|███████ | 18/28 0 14/13
[02:40<01:28, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04449 0.06121 0.01935 238 640: 64%|███████ | 0 14/13
18/28 [02:48<01:28, 8.83s/it]

G 0.04449 0.06121 0.01935 238 640: 68%|███████ | 0 14/13
19/28 [02:48<01:19, 8.80s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04448 0.06102 0.0197 201 640: 68%|███████ | 0 14/13
19/28 [02:57<01:19, 8.80s/it]

G 0.04448 0.06102 0.0197 201 640: 71%|███████ | 0 14/13
20/28 [02:57<01:10, 8.84s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04438 0.06104 0.01962 196 640: 71%|███████ | 0 14/13
20/28 [03:06<01:10, 8.84s/it]

G 0.04438 0.06104 0.01962 196 640: 75%|███████ | 0 14/13
21/28 [03:06<01:01, 8.84s/it]c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04447 0.06113 0.02 210 640: 75% [██████] | 0 14/13
21/28 [03:15<01:01, 8.84s/it]

G 0.04447 0.06113 0.02 210 640: 79% [██████] | 0 14/13
22/28 [03:15<00:52, 8.83s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04442 0.06086 0.01991 185 640: 79% [██████] | 0 14/13
22/28 [03:24<00:52, 8.83s/it]

G 0.04442 0.06086 0.01991 185 640: 82% [██████] | 0 14/13
23/28 [03:24<00:44, 8.87s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04421 0.06058 0.01976 166 640: 82% [██████] | 0 14/13
23/28 [03:33<00:44, 8.87s/it]

G 0.04421 0.06058 0.01976 166 640: 86% [██████] | 0 14/13
24/28 [03:33<00:35, 8.91s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04415 0.06047 0.01998 202 640: 86% [██████] | 0 14/13
24/28 [03:42<00:35, 8.91s/it]

G 0.04415 0.06047 0.01998 202 640: 89% [██████] | 0 14/13
25/28 [03:42<00:26, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.044 0.05987 0.02012 150 640: 89% [██████] 0 14/13
25/28 [03:52<00:26, 8.89s/it]

G 0.044 0.05987 0.02012 150 640: 93% [██████] 0 14/13
26/28 [03:52<00:18, 9.27s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04411 0.05966 0.02018 164 640: 93% [██████] 0 14/13
26/28 [04:01<00:18, 9.27s/it]

G 0.04411 0.05966 0.02018 164 640: 96% [██████] 0 14/13
27/28 [04:01<00:09, 9.31s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04401 0.05908 0.02041 129 640: 96% [██████] 0 14/13
27/28 [04:11<00:09, 9.31s/it]

G 0.04401 0.05908 0.02041 129 640: 0 14/13
100% [██████] 28/28 [04:11<00:00, 9.34s/it]

G 0.04401 0.05908 0.02041 129 640: 0 14/13
100% [██████] 28/28 [04:11<00:00, 8.98s/it]

Class Images Instances P R mAP50 mAP50-95: 0% | 0/4
[00:00<?, ?it/s]

Class Images Instances P R mAP50 mAP50-95: 25% [██] |
1/4 [00:07<00:21, 7.23s/it]

Class Images Instances P R mAP50 mAP50-95:
50% [██] | 2/4 [00:12<00:12, 6.00s/it]

Class Images Instances P R mAP50 mAP50-95:
75% [██] | 3/4 [00:17<00:05, 5.59s/it]

Class Images Instances P R mAP50 mAP50-95:
100% [██] | 4/4 [00:22<00:00, 5.45s/it]

Class Images Instances P R mAP50 mAP50-95:
100% [██] | 4/4 [00:22<00:00, 5.68s/it]

all 127 909 0.774 0.402 0.472 0.229

| Epoch | GPU_mem | box_loss | obj_loss | cls_loss | Instances | Size |
|-------|---------|----------|----------|----------|-----------|------|
|-------|---------|----------|----------|----------|-----------|------|

[00:00<?, ?it/s]c:\Users\96650\Downloads\yolov5\train.py:414: 28/0 | %0
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04372 0.07709 0.01771 282 640: 0%| 0/28 0 14/14
[00:09<?, ?it/s]

G 0.04372 0.07709 0.01771 282 640: 4%| 1/28 0 14/14
[00:09<04:03, 9.04s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04519 0.07212 0.01754 234 640: 4%| 1/28 0 14/14
[00:18<04:03, 9.04s/it]

G 0.04519 0.07212 0.01754 234 640: 7%| 2/28 0 14/14
[00:18<03:53, 9.00s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04502 0.0654 0.01968 169 640: 7%| 2/28 0 14/14
[00:26<03:53, 9.00s/it]

G 0.04502 0.0654 0.01968 169 640: 11%| 3/28 0 14/14
[00:26<03:42, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04499 0.06565 0.0193 183 640: 11%| 3/28 0 14/14
[00:35<03:42, 8.89s/it]

G 0.04499 0.06565 0.0193 183 640: 14%| 4/28 0 14/14
[00:35<03:33, 8.89s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
. `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.0446 0.06541 0.01877 227 640: 14% [■] | 4/28 0 14/14  
[00:44<03:33, 8.89s/it]  
  
G 0.0446 0.06541 0.01877 227 640: 18% [■] | 5/28 0 14/14  
[00:44<03:22, 8.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:  
`torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04383 0.06643 0.01828 223 640: 18% [■] | 5/28 0 14/14  
[00:53<03:22, 8.82s/it]  
  
G 0.04383 0.06643 0.01828 223 640: 21% [■] | 6/28 0 14/14  
[00:53<03:13, 8.79s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:  
`torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04409 0.06484 0.01851 202 640: 21% [■] | 6/28 0 14/14  
[01:01<03:13, 8.79s/it]  
  
G 0.04409 0.06484 0.01851 202 640: 25% [■] | 7/28 0 14/14  
[01:01<03:05, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:  
`torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04373 0.06225 0.01911 111 640: 25% [■] | 7/28 0 14/14  
[01:10<03:05, 8.81s/it]  
  
G 0.04373 0.06225 0.01911 111 640: 29% [■] | 8/28 0 14/14  
[01:10<02:56, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:  
`torch.cuda.amp.autocast(args...)` is deprecated. Please use  
. `torch.amp.autocast('cuda', args...)` instead
```

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04369 0.06119 0.01884 182 640: 29% [■] | 8/28 0 14/14  
[01:19<02:56, 8.81s/it]
```

G 0.04369 0.06119 0.01884 182 640: 32% [██████] | 9/28 0 14/14
[01:19<02:47, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04379 0.05989 0.0188 152 640: 32% [██████] | 9/28 0 14/14
[01:28<02:47, 8.81s/it]

G 0.04379 0.05989 0.0188 152 640: 36% [██████] | 10/28 0 14/14
[01:28<02:38, 8.82s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04378 0.06109 0.01871 216 640: 36% [██████] | 10/28 0 14/14
[01:37<02:38, 8.82s/it]

G 0.04378 0.06109 0.01871 216 640: 39% [██████] | 11/28 0 14/14
[01:37<02:30, 8.85s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04402 0.06235 0.01876 264 640: 39% [██████] | 11/28 0 14/14
[01:46<02:30, 8.85s/it]

G 0.04402 0.06235 0.01876 264 640: 43% [██████] | 12/28 0 14/14
[01:46<02:20, 8.81s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04374 0.06133 0.01887 180 640: 43% [██████] | 12/28 0 14/14
[01:54<02:20, 8.81s/it]

G 0.04374 0.06133 0.01887 180 640: 46% [██████] | 13/28 0 14/14
[01:54<02:11, 8.77s/it]c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
`torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04377 0.06012 0.0186 162 640: 46% [██████] | 13/28 0 14/14
[02:03<02:11, 8.77s/it]

G 0.04377 0.06012 0.0186 162 640: 50% [██████] | 14/28 0 14/14
[02:03<02:02, 8.75s/it] c:\Users\96650\Downloads\yolov5\train.py:414: FutureWarning:
`torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04376 0.06022 0.01884 227 640: 50% [██████] | 0 14/14
14/28 [02:12<02:02, 8.75s/it]

G 0.04376 0.06022 0.01884 227 640: 54% [██████] | 0 14/14
15/28 [02:12<01:53, 8.73s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.0435 0.05944 0.01886 125 640: 54% [██████] | 15/28 0 14/14
[02:20<01:53, 8.73s/it]

G 0.0435 0.05944 0.01886 125 640: 57% [██████] | 0 14/14
16/28 [02:20<01:44, 8.74s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04352 0.05927 0.01872 175 640: 57% [██████] | 0 14/14
16/28 [02:29<01:44, 8.74s/it]

G 0.04352 0.05927 0.01872 175 640: 61% [██████] | 0 14/14
17/28 [02:29<01:36, 8.81s/it] c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04355 0.05949 0.01869 212 640: 61% [██████] | 0 14/14
17/28 [02:38<01:36, 8.81s/it]

G 0.04355 0.05949 0.01869 212 640: 64% [██████] | 0 14/14
18/28 [02:38<01:28, 8.84s/it] c:\Users\96650\Downloads\yolov5\train.py:414:

FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04361 0.0594 0.01872 202 640: 64% [██████] | 0 14/14
18/28 [02:47<01:28, 8.84s/it]

G 0.04361 0.0594 0.01872 202 640: 68% [██████] | 0 14/14
19/28 [02:47<01:19, 8.79s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04361 0.05979 0.0186 236 640: 68% [██████] | 0 14/14
19/28 [02:56<01:19, 8.79s/it]

G 0.04361 0.05979 0.0186 236 640: 71% [██████] | 0 14/14
20/28 [02:56<01:10, 8.75s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04367 0.05902 0.01868 150 640: 71% [██████] | 0 14/14
20/28 [03:04<01:10, 8.75s/it]

G 0.04367 0.05902 0.01868 150 640: 75% [██████] | 0 14/14
21/28 [03:04<01:01, 8.73s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04383 0.05988 0.01864 309 640: 75% [██████] | 0 14/14
21/28 [03:13<01:01, 8.73s/it]

G 0.04383 0.05988 0.01864 309 640: 79% [██████] | 0 14/14
22/28 [03:13<00:52, 8.74s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04383 0.05999 0.01862 227 640: 79%|██████████| 0 14/14
22/28 [03:22<00:52, 8.74s/it]

G 0.04383 0.05999 0.01862 227 640: 82%|██████████| 0 14/14
23/28 [03:22<00:43, 8.70s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04373 0.0598 0.01856 193 640: 82%|██████████| 0 14/14
23/28 [03:30<00:43, 8.70s/it]

G 0.04373 0.0598 0.01856 193 640: 86%|██████████| 0 14/14
24/28 [03:30<00:34, 8.71s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04372 0.06058 0.01853 288 640: 86%|██████████| 0 14/14
24/28 [03:39<00:34, 8.71s/it]

G 0.04372 0.06058 0.01853 288 640: 89%|██████████| 0 14/14
25/28 [03:39<00:26, 8.70s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead
:with torch.cuda.amp.autocast(amp)

G 0.04374 0.06033 0.01854 189 640: 89%|██████████| 0 14/14
25/28 [03:48<00:26, 8.70s/it]

G 0.04374 0.06033 0.01854 189 640: 93%|██████████| 0 14/14
26/28 [03:48<00:17, 8.71s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

:with torch.cuda.amp.autocast(amp)

G 0.04376 0.06043 0.01858 219 640: 93%|██████████| 0 14/14
26/28 [03:56<00:17, 8.71s/it]

G 0.04376 0.06043 0.01858 219 640: 96%|██████████| 0 14/14
27/28 [03:56<00:08, 8.68s/it]c:\Users\96650\Downloads\yolov5\train.py:414:
FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use
. `torch.amp.autocast('cuda', args...)` instead

```
:with torch.cuda.amp.autocast(amp)
```

```
G 0.04368 0.06004 0.01871 165 640: 96%|██████████| 0 14/14  
27/28 [04:05<00:08, 8.68s/it]
```

```
G 0.04368 0.06004 0.01871 165 640: 0 14/14  
100%|██████████| 28/28 [04:05<00:00, 8.73s/it]
```

```
G 0.04368 0.06004 0.01871 165 640: 0 14/14  
100%|██████████| 28/28 [04:05<00:00, 8.78s/it]
```

```
Class Images Instances P R mAP50 mAP50-95: 0%| 0/4  
[00:00<?, ?it/s]
```

```
Class Images Instances P R mAP50 mAP50-95: 25%|████| 1/4  
1/4 [00:06<00:19, 6.35s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
50%|████| 2/4 [00:11<00:10, 5.46s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
75%|██████| 3/4 [00:15<00:05, 5.12s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
100%|██████████| 4/4 [00:20<00:00, 5.04s/it]
```

```
Class Images Instances P R mAP50 mAP50-95:  
100%|██████████| 4/4 [00:20<00:00, 5.21s/it]
```

```
all 127 909 0.612 0.448 0.499 0.251
```

.epochs completed in 6.050 hours 15

Optimizer stripped from runs\train\exp3\weights\last.pt, 14.4MB

Optimizer stripped from runs\train\exp3\weights\best.pt, 14.4MB

...Validating runs\train\exp3\weights\best.pt

...Fusing layers

Model summary: 157 layers, 7029004 parameters, 0 gradients, 15.8 GFLOPs

```
Class Images Instances P R mAP50 mAP50-95: 0%| 0/4  
[00:00<?, ?it/s]
```

```
Class Images Instances P R mAP50 mAP50-95: 25%|████| 1/4  
1/4 [00:05<00:16, 5.58s/it]
```

```

Class  Images Instances      P      R    mAP50  mAP50-95:
50%|██████████| 2/4 [00:10<00:10, 5.04s/it]

Class  Images Instances      P      R    mAP50  mAP50-95:
75%|██████████| 3/4 [00:14<00:04, 4.79s/it]

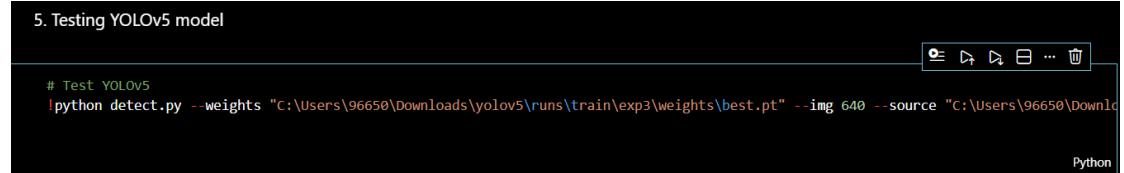
Class  Images Instances      P      R    mAP50  mAP50-95:
100%|██████████| 4/4 [00:19<00:00, 4.74s/it]

Class  Images Instances      P      R    mAP50  mAP50-95:
100%|██████████| 4/4 [00:19<00:00, 4.85s/it]

all    127    909   0.612   0.448   0.499   0.25
fish   127    459   0.697   0.765   0.804   0.404
jellyfish 127    155   0.723   0.935   0.919   0.45
penguin 127    104   0.466   0.764   0.625   0.238
puffin   127     74   0.78    0.192   0.351   0.147
shark    127     57   0.47    0.474   0.449   0.29
starfish  127     27     1     0    0.138   0.0956
stingray  127     33   0.149   0.00902  0.206   0.127

```

m0]Results saved to ②[1mruns\train\exp3②



```

5. Testing YOLOv5 model

# Test YOLOv5
!python detect.py --weights "C:\Users\96650\Downloads\yolov5\runs\train\exp3\weights\best.pt" --img 640 --source "C:\Users\96650\Downloads\Aquarium Object Detection Dataset\test\images"

```

```

# Test YOLOv5

!python detect.py --weights
"C:\Users\96650\Downloads\yolov5\runs\train\exp3\weights\best.pt" --img 640 --
source "C:\Users\96650\Downloads\Aquarium Object Detection Dataset\test\images"

```

```

detect: weights=['C:\\Users\\96650\\Downloads\\yolov5\\runs\\train\\exp3\\weights\\best.pt'], source=C:\\Users\\96650\\Downloads\\Aquarium Obj
YOLOv5 v7.0-449-g0d25ae7c Python-3.13.9 torch-2.9.1+cpu CPU

Fusing layers...
Model summary: 157 layers, 7029004 parameters, 0 gradients, 15.8 GFLOPS
image 1/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2289.jpeg.jpg.rf.fe2a7a149e7b11f2313f5a7b30386e85.jpg
image 2/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2301.jpeg.jpg.rf.2c19ae5efbd1f8611b5578125f001695.jpg
image 3/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2319.jpeg.jpg.rf.6e20bf97d17b74a8948aa48776c40454.jpg
image 4/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2347.jpeg.jpg.rf.7c71ac4b9301eb358cd4a832844dedcb.jpg
image 5/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2354.jpeg.jpg.rf.396e872c7fb0a95e911806986995ee7a.jpg
image 6/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2371.jpeg.jpg.rf.54505f60b6706da151c164188c305849.jpg
image 7/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2379.jpeg.jpg.rf.7dc3160c937072d6d4624c6c48e90ad.jpg
image 8/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2380.jpeg.jpg.rf.a23809682b1466c136ca0f55de8fb5.jpg
image 9/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2387.jpeg.jpg.rf.09b3baccfab0922aaab66480f01b719.jpg
image 10/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2395.jpeg.jpg.rf.9f1503ad3b7a7c7938daed057cc4e9bc.j
image 11/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2423.jpeg.jpg.rf.1c0901882e71d5ebd26f036f4e22da65.j
image 12/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2434.jpeg.jpg.rf.8b20d3270d4fb497c64125273f46ecb.j
image 13/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2446.jpeg.jpg.rf.06ee05e92df8e3c33073147d8f595211.j
image 14/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2448.jpeg.jpg.rf.28ce79dab47ad525751d5407be09bc3d.j
image 15/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2450.jpeg.jpg.rf.ff673921373de3bfc275863e3befefe.j
image 16/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2465.jpeg.jpg.rf.7e699ec1d2e373d93dac32cd02db9438.j
image 17/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2466.jpeg.jpg.rf.53886abb947ec4e47405957b30fe314.j
image 18/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2468.jpeg.jpg.rf.c933cc14c99b11a90413a1490d4556db.j
image 19/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2470.jpeg.jpg.rf.75b259c8baa6866bfecf07a0e4e8c33d.j
image 20/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_2473.jpeg.jpg.rf.6284677f9c781b0cfee5c54981a17d573.j
...
image 62/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_8595.MOV-0.jpg.rf.312ab0b8b9fc1a18134aee88044f45a6.
image 63/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection Dataset\\test\\images\\IMG_8599.MOV-3.jpg.rf.412ebbb16ea80e964b4464c50e757df0e.

Speed: 0.8ms pre-process, 119.7ms inference, 0.8ms NMS per image at shape (1, 3, 640, 640)
Results saved to runs\\detect\\exp3
Output is truncated. View as a scrollable element or open in a text editor. Adjust cell output settings...

```

mmdetect: 1]m[34]□

```

@ [0mweights=['C:\\Users\\96650\\Downloads\\yolov5\\runs\\train\\exp3\\weights\\best.pt'], source=C:\\Users\\96650\\Downloads\\Aquarium Object Detection
Dataset\\test\\images, data=data\\coco128.yaml, imgsz=[640, 640], conf_thres=0.25,
iou_thres=0.45, max_det=1000, device=, view_img=False, save_txt=False,
save_format=0, save_csv=False, save_conf=False, save_crop=False, nosave=False,
classes=None, agnostic_nms=False, augment=False, visualize=False, update=False,
project=runs\\detect, name=exp, exist_ok=False, line_thickness=3, hide_labels=False,
hide_conf=False, half=False, dnn=False, vid_stride=1

```

YOLOv5 v7.0-449-g0d25ae7c Python-3.13.9 torch-2.9.1+cpu CPU

...Fusing layers

Model summary: 157 layers, 7029004 parameters, 0 gradients, 15.8 GFLOPs

image 1/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection
Dataset\\test\\images\\IMG_2289.jpeg.jpg.rf.fe2a7a149e7b11f2313f5a7b30386e85.jpg:
640x480 1 shark, 149.7ms

image 2/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection
Dataset\\test\\images\\IMG_2301.jpeg.jpg.rf.2c19ae5efbd1f8611b5578125f001695.jpg:
640x480 27 penguins, 131.6ms

image 3/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection
Dataset\\test\\images\\IMG_2319.jpeg.jpg.rf.6e20bf97d17b74a8948aa48776c40454.jpg:
640x480 8 penguins, 119.7ms

image 4/63 C:\\Users\\96650\\Downloads\\Aquarium Object Detection
Dataset\\test\\images\\IMG_2347.jpeg.jpg.rf.7c71ac4b9301eb358cd4a832844dedcb.jpg:
640x480 (no detections), 125.6ms

image 5/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2354.jpeg.jpg.rf.396e872c7fb0a95e911806986995ee7a.jpg:
640x480 5 penguins, 129.0ms

image 6/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2371.jpeg.jpg.rf.54505f60b6706da151c164188c305849.jpg:
640x480 4 fishes, 120.6ms

image 7/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2379.jpeg.jpg.rf.7dc3160c937072d26d4624c6c48e904d.jpg:
640x480 2 fishes, 122.1ms

image 8/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2380.jpeg.jpg.rf.a23809682eb1466c1136ca0f55de8fb5.jpg:
640x480 2 fishes, 2 sharks, 126.0ms

image 9/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2387.jpeg.jpg.rf.09b38bacfab0922a3a6b66480f01b719.jpg:
640x480 (no detections), 131.3ms

image 10/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2395.jpeg.jpg.rf.9f1503ad3b7a7c7938daed057cc4e9bc.jpg:
640x480 5 fishes, 129.0ms

image 11/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2423.jpeg.jpg.rf.1c0901882e71d5ebd26f036f4e22da65.jpg:
640x480 18 fishes, 2 sharks, 123.3ms

image 12/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2434.jpeg.jpg.rf.8b20d3270d4fbc497c64125273f46ecb.jpg:
640x480 3 fishes, 122.8ms

image 13/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2446.jpeg.jpg.rf.06ee05e92df8e3c33073147d8f595211.jpg:
640x480 10 fishes, 3 sharks, 117.2ms

image 14/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2448.jpeg.jpg.rf.28ce79dab47ad525751d5407be09bc3d.jpg
: 640x480 13 fishes, 3 sharks, 124.3ms

image 15/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2450.jpeg.jpg.rf.ff673921373de3bfc275863e3befefe.jpg:
640x480 23 fishes, 1 shark, 124.1ms

image 16/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2465.jpeg.jpg.rf.7e699ec1d2e373d93dac32cd02db9438.jpg:
640x480 19 jellyfishs, 122.2ms

image 17/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2466.jpeg.jpg.rf.53886abb9947ec4e47405957b30fe314.jpg:
640x480 6 jellyfishs, 120.8ms

image 18/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2468.jpeg.jpg.rf.c933cc14c99b11a90413a1490d4556db.jpg:
640x480 9 jellyfishs, 130.2ms

image 19/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2470.jpeg.jpg.rf.75b359c8baa6866bfecf07a0e4e8c33d.jpg:
640x480 18 jellyfishs, 126.8ms

image 20/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2473.jpeg.jpg.rf.6284677f9c781b0cfeec54981a17d573.jpg:
640x480 7 jellyfishs, 123.8ms

image 21/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2477.jpeg.jpg.rf.7b2692f142d53c16ad477065f1f8ae6d.jpg:
640x480 7 jellyfishs, 119.7ms

image 22/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2496.jpeg.jpg.rf.3f91e7f18502074c89fa720a11926fab.jpg:
640x480 6 fishes, 6 sharks, 120.1ms

image 23/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2499.jpeg.jpg.rf.6cbab3719b9063388b5ab3ab826d7bd3.jpg:
640x480 5 fishes, 1 shark, 122.4ms

image 24/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2514.jpeg.jpg.rf.6ccb3859d75fc5fce053b1c1474254b2.jpg:
640x480 2 sharks, 121.0ms

image 25/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2526.jpeg.jpg.rf.003e1d1d41bcd204df731b85cea68781.jpg:
640x480 5 fishes, 2 puffins, 121.2ms

image 26/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2532.jpeg.jpg.rf.2afeb76e5d9372dbbd6fb53d5b75675.jpg:
640x480 1 fish, 1 shark, 149.5ms

image 27/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2544.jpeg.jpg.rf.03f51bb9e1c57fb9cd62f8cbdca14e90.jpg:
640x480 1 fish, 2 jellyfishs, 111.7ms

image 28/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2547.jpeg.jpg.rf.9406b6f1a9fad2292c4abd28f712baaf.jpg:
640x480 3 fishes, 120.1ms

image 29/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2570.jpeg.jpg.rf.ed40900b657a5b23d92cb2d296ad2dbc.jpg:
640x480 13 fishes, 2 sharks, 127.5ms

image 30/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2574.jpeg.jpg.rf.ca0c3ad32384309a61e92d9a8bef87b9.jpg:
640x480 14 jellyfishs, 129.3ms

image 31/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2582.jpeg.jpg.rf.14f175066ce74b470bf31fa0c7a096cd.jpg:
640x480 7 fishes, 1 puffin, 3 sharks, 126.6ms

image 32/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2588.jpeg.jpg.rf.cb9cea8f05891cf55a3e93f2908201f.jpg:
640x480 3 sharks, 123.0ms

image 33/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2630.jpeg.jpg.rf.310f0c986a72be46b80ce31c2d00e46d.jpg:
640x480 3 fishes, 1 shark, 118.8ms

image 34/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2632.jpeg.jpg.rf.f44037edca490b16cbf06427e28ea946.jpg:
640x480 6 fishes, 1 shark, 117.1ms

image 35/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_2651.jpeg.jpg.rf.84b3930aa80b610cc97bf1c176763940.jpg:
640x480 1 shark, 117.1ms

image 36/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3129.jpeg.jpg.rf.90c472dcdf9b6713ec767cc97560ceca.jpg:
640x480 (no detections), 117.7ms

image 37/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3134.jpeg.jpg.rf.50750ca778773042a3c46a1d3e480132.jpg:
640x480 2 puffins, 118.6ms

image 38/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3136.jpeg.jpg.rf.0d8fef73d4cc5e1c35ce424444d9e44b.jpg:
640x480 1 penguin, 5 puffins, 125.7ms

image 39/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3144.jpeg.jpg.rf.f29a36360174dc83ecef93275ed8f02e.jpg:
640x480 1 puffin, 117.6ms

image 40/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3154.jpeg.jpg.rf.5f429a366c02d38bc9e2217f4508c3e0.jpg:
640x480 1 penguin, 118.4ms

image 41/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3164.jpeg.jpg.rf.06637eee0b72df791aa729807ca45c4d.jpg:
640x480 25 penguins, 119.8ms

image 42/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3173.jpeg.jpg.rf.6f05acaa0b22d410a5df3ea3286e227d.jpg:
480x640 16 penguins, 141.0ms

image 43/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_3175.jpeg.jpg.rf.686c7d36e049eea974a363e99bf0bee0.jpg:
480x640 12 penguins, 119.4ms

image 44/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8331.jpg.rf.ec024bdf1e9de02b020b5e6505c1c58b.jpg:
480x640 1 fish, 125.9ms

image 45/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8343.jpg.rf.2d88000497d74d72aecd118b125a0c07.jpg:
480x640 2 fishes, 2 sharks, 132.0ms

image 46/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8395.jpg.rf.3bebece033961c9f665571644a14261f.jpg:
480x640 10 fishes, 3 sharks, 119.0ms

image 47/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8396.jpg.rf.106a6ced5c649ea81f0de8ecaa4ff3b8.jpg:
480x640 9 fishes, 4 sharks, 126.2ms

image 48/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8404.jpg.rf.265b89e862a375f6b89f781ea60ed480.jpg:
480x640 12 fishes, 1 shark, 119.1ms

image 49/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8420.jpg.rf.31f1d5f1440e48ccf1dee988b565911b.jpg:
480x640 27 fishes, 124.9ms

image 50/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8452.jpg.rf.6bbff701ab93e29553b3a70137fd4e66.jpg:
480x640 31 fishes, 127.9ms

image 51/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8490.jpg.rf.1836542cf054c6d303a2dd05d4194d7f.jpg:
480x640 41 jellyfishes, 123.1ms

image 52/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8497_MOV-
0.jpg.rf.5c59bd1bf7d8fd7a20999d51a79a12c0.jpg: 640x384 9 fishes, 114.5ms

image 53/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8497_MOV-
3.jpg.rf.fd813e14681c8b41e709a500748ce46a.jpg: 640x384 9 fishes, 98.3ms

image 54/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8497_MOV-
5.jpg.rf.3deffb208d656b7845661c5e33dd1afb.jpg: 640x384 8 fishes, 96.6ms

image 55/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8513_MOV-
0.jpg.rf.2a2f77e3f73630b60aaf6ad3ca4ed130.jpg: 640x384 9 fishes, 99.8ms

image 56/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8515.jpg.rf.98a9daca7c5a5bad9872bd7fb2d4f198.jpg:
480x640 7 fishes, 116.8ms

image 57/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8582_MOV-
0.jpg.rf.aa8304d7a5112d63c8841d96160d42cd.jpg: 640x384 6 fishes, 1 shark, 98.3ms

image 58/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8582_MOV-
3.jpg.rf.c7dde0639837077f76428d70223368a4.jpg: 640x384 (no detections), 97.8ms

image 59/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8582_MOV-
5.jpg.rf.9d7a26fbf145ce39ab0831b4e6bc1f1e.jpg: 640x384 6 fishes, 91.2ms

image 60/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8590_MOV-
2.jpg.rf.2136fdb5dcbcd58a1dc456bb3e5bf476.jpg: 640x384 5 jellyfishs, 93.6ms

image 61/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8590_MOV-
5.jpg.rf.074e6d8acdd3fcad16d866c341b43769.jpg: 640x384 1 fish, 1 shark, 95.8ms

image 62/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8595_MOV-
0.jpg.rf.312ab0b8b9fca18134aee88044f45a06.jpg: 640x384 54 jellyfishs, 98.1ms

image 63/63 C:\Users\96650\Downloads\Aquarium Object Detection
Dataset\test\images\IMG_8599_MOV-
3.jpg.rf.412ebb16ea80e964b4464c50e757df0e.jpg: 640x384 4 jellyfishs, 96.2ms

,3 ,1) Speed: 0.8ms pre-process, 119.7ms inference, 0.8ms NMS per image at shape
(640 ,640

m0]Results saved to ②[1mruns\detect\exp3②

```
6. Displaying Images after analyses
display 5 images analyzed by the YOLOv5 model with their bounding boxes.

import os
import matplotlib.pyplot as plt

# go to images after having bounding boxes
results_path = r"C:\Users\96650\Downloads\yolov5\runs\detect\exp3"

# Get the images names
image_files = [os.path.join(results_path, f) for f in os.listdir(results_path) if f.endswith('.jpg', '.png')]

for i, img_path in enumerate(image_files[:5]):
    img = plt.imread(img_path)
    plt.figure(figsize=(8, 8))
    plt.imshow(img)
    plt.axis('off')
    plt.title(f"Image {i+1}")
    plt.show()
```

Python

Image 1



Image 2



Image 3

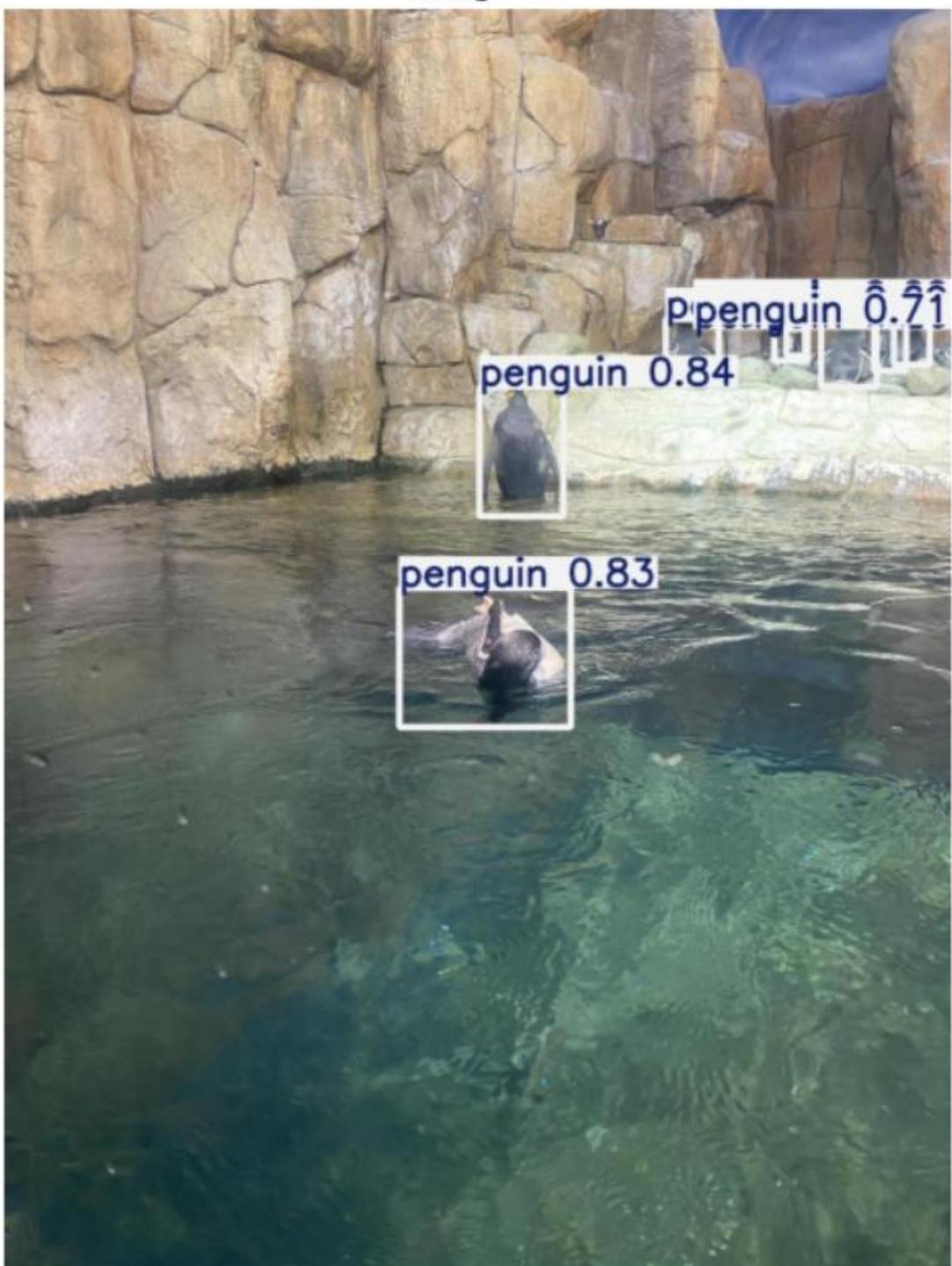


Image 4



Image 5



7. Display Confusion Matrix

```
from IPython.display import Image, display  
  
confusion_matrix_path = r"C:\Users\96650\Downloads\yolov5\runs\train\exp3\confusion_matrix.png"  
display(Image(filename=confusion_matrix_path))
```

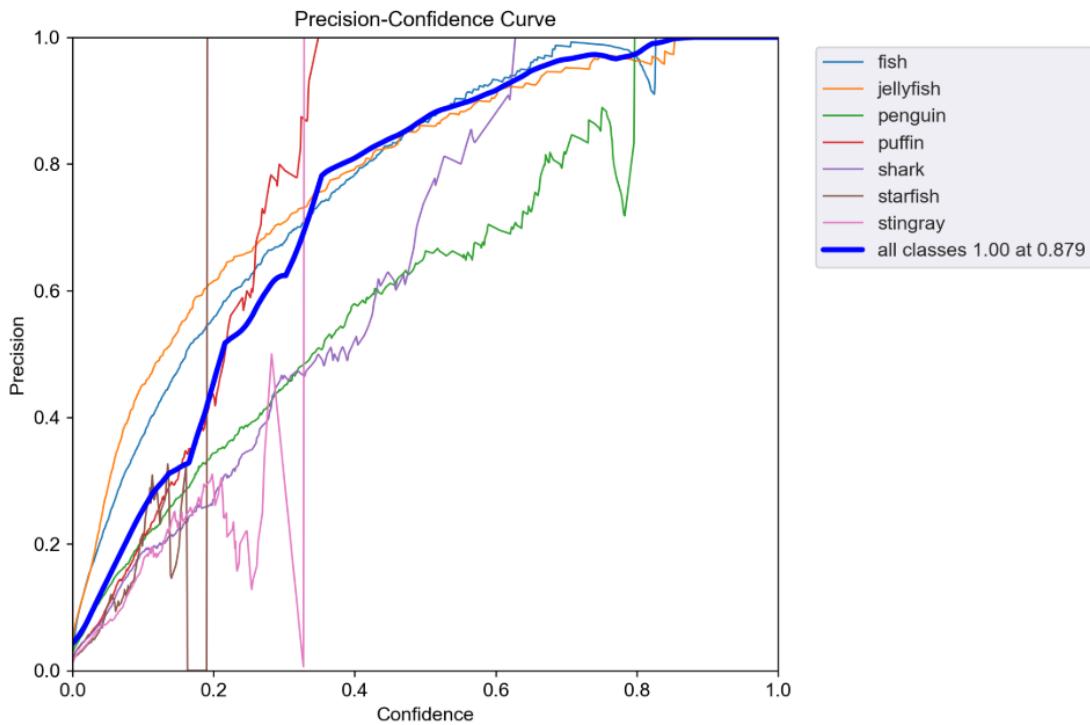
Python



8. Display Precision_Confidence Curve

```
from IPython.display import Image, display
pr_curve_path = r"C:\Users\96650\Downloads\yolov5\runs\train\exp3\P_curve.png"
display(Image(filename=pr_curve_path))
```

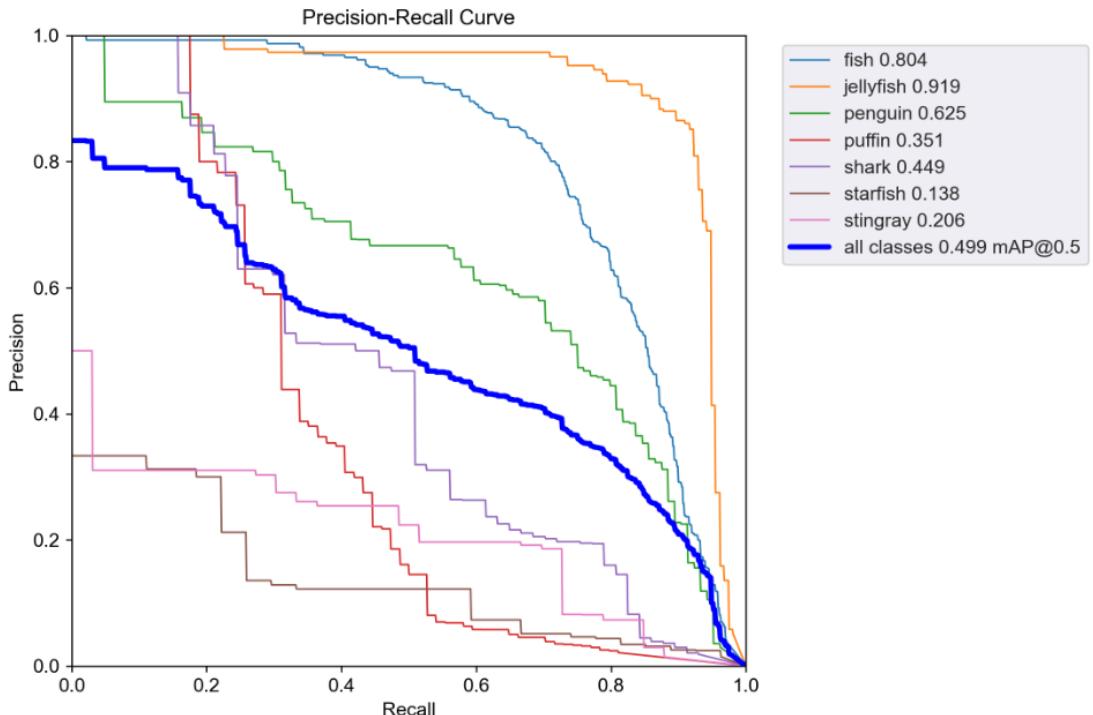
Python



9. Display Precision_Recall Curve

```
from IPython.display import Image, display  
  
Pr_curve_path = r"C:\Users\96650\Downloads\yolov5\runs\train\exp3\PR_curve.png"  
display(Image(filename=Pr_curve_path))
```

Python



```
import os

metrics_dir = r"C:\Users\96650\Downloads\yolov5\runs\train\exp3"
print(os.listdir(metrics_dir))
✓ 0.0s
```

Python

['confusion_matrix.png', 'events.out.tfevents.1764118747.jumanah22.3024.0', 'F1_curve.png', 'hyp.yaml', 'la

```
confusion_matrix.png', 'events.out.tfevents.1764118747.jumanah22.3024.0', ']
'F1_curve.png', 'hyp.yaml', 'labels.jpg', 'labels_correlogram.jpg', 'opt.yaml',
'PR_curve.png', 'P_curve.png', 'results.csv', 'results.png', 'R_curve.png', 'train_batch0.jpg',
'train_batch1.jpg', 'train_batch2.jpg', 'val_batch0_labels.jpg', 'val_batch0_pred.jpg',
'val_batch1_labels.jpg', 'val_batch1_pred.jpg', 'val_batch2_labels.jpg',
["val_batch2_pred.jpg", 'weights
```

10. Calculate Inference Time

```
import time
import os
import cv2
import torch
from yolov5.models.common import DetectMultiBackend

# Check for GPU availability
device = torch.device('cuda' if torch.cuda.is_available() else 'cpu')
print(f"Using device: {device}")

# Load the trained model
model_path = r"C:\Users\96650\Downloads\yolov5\runs\train\exp3\weights\best.pt"
model = DetectMultiBackend(model_path, device=device)

# Path to test images
test_images_path = r"C:\Users\96650\Downloads\Aquarium Object Detection Dataset\test\images"
image_files = [os.path.join(test_images_path, f) for f in os.listdir(test_images_path) if f.endswith('.jpg', '.png')]

# Function to preprocess the image
def preprocess_image(img):
    img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
    img = cv2.resize(img, (640, 640))
    img = torch.from_numpy(img).permute(2, 0, 1).unsqueeze(0).float()
    img /= 255.0
    return img.to(device)

# Measure inference time for each image
total_time = 0
for img_path in image_files:
    img = cv2.imread(img_path)
    img_tensor = preprocess_image(img)

    start = time.time()
    _ = model(img_tensor)
    end = time.time()

    inference_time = end - start
    total_time += inference_time
    print(f"Inference Time for {os.path.basename(img_path)}: {inference_time:.4f} seconds")

# total and average inference time
average_time = total_time / len(image_files)
print(f"\nTotal Inference Time: {total_time:.4f} seconds")
print(f"Average Inference Time per Image: {average_time:.4f} seconds")
```

```

Inference Time for IMG_3134.jpeg.jpg.rf.50750ca778773042a3c46a1d3e480132.jpg: 0.2325 seconds
Inference Time for IMG_3136.jpeg.jpg.rf.0d8feff73d4cc5e1c35ce42444d9e44b.jpg: 0.1536 seconds
Inference Time for IMG_3144.jpeg.jpg.rf.f29a36360174dc83cef93275ed8f02e.jpg: 0.1603 seconds
Inference Time for IMG_3154.jpeg.jpg.rf.5f429a366c02d38bc9e2217f4508c3e0.jpg: 0.1442 seconds
Inference Time for IMG_3164.jpeg.jpg.rf.06637eee0b72df791aa729807ca45c4d.jpg: 0.1506 seconds
Inference Time for IMG_3173.jpeg.jpg.rf.6f65acaa0b22d410a5df3ea3286e227d.jpg: 0.1545 seconds
Inference Time for IMG_3175.jpeg.jpg.rf.686c7d3de049ee9a74a363e99bf0bee0.jpg: 0.1498 seconds
Inference Time for IMG_3331.jpeg.rf.ec024bdf1e9de02b02b5e65051c158b.jpg: 0.1698 seconds
Inference Time for IMG_8343.jpeg.rf.2d88000497d74d72aedc118b125ae0c07.jpg: 0.1844 seconds
Inference Time for IMG_8395.jpeg.rf.3bebec0e033961c9f665571644a14261f.jpg: 0.1536 seconds
Inference Time for IMG_8396.jpeg.rf.106a6ced5c6c49e481f0de8caa4ff3b8.jpg: 0.1736 seconds
Inference Time for IMG_8404.jpeg.rf.265b89e862a375fb89f781ea60ed480.jpg: 0.1833 seconds
Inference Time for IMG_8420.jpeg.rf.3f1fdf1440e48ccf1dee988b565911b.jpg: 0.1703 seconds
Inference Time for IMG_8452.jpeg.rf.6bbff701ab93e29553b3a70137fd4e66.jpg: 0.1781 seconds
Inference Time for IMG_8490.jpeg.rf.1836542cf054c6d303a2dd05d4194d7f.jpg: 0.1819 seconds
Inference Time for IMG_8497.MOV-0.jpeg.rf.5c59b1bf7d8fd7a20999d51a79a12c0.jpg: 0.1526 seconds
Inference Time for IMG_8497.MOV-3.jpeg.rf.fd813e14681c8b41e709a500748ce46a.jpg: 0.1501 seconds
Inference Time for IMG_8497.MOV-5.jpeg.rf.3deffb208d656b7845661c5e33dd1afb.jpg: 0.1528 seconds
Inference Time for IMG_8513.MOV-0.jpeg.rf.2a2f77e3f73630b60aa6fad3cae4d130.jpg: 0.1565 seconds
Inference Time for IMG_8515.jpeg.rf.98a9daca7c5a5bad9872bd7fb2d4f198.jpg: 0.1508 seconds
Inference Time for IMG_8582.MOV-0.jpeg.rf.aa8304d7a5112d63c8841d96160d42cd.jpg: 0.1518 seconds
Inference Time for IMG_8582.MOV-3.jpeg.rf.c7dde063983707f76428d70223368a4.jpg: 0.1487 seconds
Inference Time for IMG_8582.MOV-5.jpeg.rf.9d7a26fbf145ce39ab0831b4e6bc1f1e.jpg: 0.1542 seconds
Inference Time for IMG_8590.MOV-2.jpeg.rf.2136fdb5dcba58a1dc456bb3e5bf476.jpg: 0.1580 seconds
Inference Time for IMG_8590.MOV-5.jpeg.rf.074e6dbacdd3fcad16d866c341b43769.jpg: 0.1673 seconds
Inference Time for IMG_8595.MOV-0.jpeg.rf.312ab0b89fc1a18134ae88044f45a06.jpg: 0.1509 seconds
Inference Time for IMG_8599.MOV-3.jpeg.rf.412ebb16ea80e964b4464c50e757df0e.jpg: 0.1500 seconds

Total Inference Time: 10.8732 seconds
Average Inference Time per Image: 0.1726 seconds

```

Using device: cpu

...Fusing layers

Model summary: 157 layers, 7029004 parameters, 0 gradients, 15.8 GFLOPs

Inference Time for IMG_2289.jpeg.jpg.rf.fe2a7a149e7b11f2313f5a7b30386e85.jpg: 0.2212 seconds

Inference Time for IMG_2301.jpeg.jpg.rf.2c19ae5efbd1f8611b5578125f001695.jpg: 0.1942 seconds

Inference Time for IMG_2319.jpeg.jpg.rf.6e20bf97d17b74a8948aa48776c40454.jpg: 0.2275 seconds

Inference Time for IMG_2347.jpeg.jpg.rf.7c71ac4b9301eb358cd4a832844dedcb.jpg: 0.1771 seconds

Inference Time for IMG_2354.jpeg.jpg.rf.396e872c7fb0a95e911806986995ee7a.jpg: 0.1844 seconds

Inference Time for IMG_2371.jpeg.jpg.rf.54505f60b6706da151c164188c305849.jpg: 0.2626 seconds

Inference Time for IMG_2379.jpeg.jpg.rf.7dc3160c937072d26d4624c6c48e904d.jpg: 0.2156 seconds

Inference Time for IMG_2380.jpeg.jpg.rf.a23809682eb1466c1136ca0f55de8fb5.jpg: 0.1919 seconds

Inference Time for IMG_2387.jpeg.jpg.rf.09b38bacfab0922a3a6b66480f01b719.jpg: 0.1796 seconds

Inference Time for IMG_2395.jpeg.jpg.rf.9f1503ad3b7a7c7938daed057cc4e9bc.jpg: 0.1771 seconds

Inference Time for IMG_2423.jpeg.jpg.rf.1c0901882e71d5ebd26f036f4e22da65.jpg:
0.1869 seconds

Inference Time for IMG_2434.jpeg.jpg.rf.8b20d3270d4fbcc497c64125273f46ecb.jpg:
0.1671 seconds

Inference Time for IMG_2446.jpeg.jpg.rf.06ee05e92df8e3c33073147d8f595211.jpg:
0.1623 seconds

Inference Time for IMG_2448.jpeg.jpg.rf.28ce79dab47ad525751d5407be09bc3d.jpg:
0.1720 seconds

Inference Time for IMG_2450.jpeg.jpg.rf.ff673921373de3bfc275863e3befeffe.jpg:
0.1824 seconds

Inference Time for IMG_2465.jpeg.jpg.rf.7e699ec1d2e373d93dac32cd02db9438.jpg:
0.1679 seconds

Inference Time for IMG_2466.jpeg.jpg.rf.53886abb9947ec4e47405957b30fe314.jpg:
0.1994 seconds

Inference Time for IMG_2468.jpeg.jpg.rf.c933cc14c99b11a90413a1490d4556db.jpg:
0.2004 seconds

Inference Time for IMG_2470.jpeg.jpg.rf.75b359c8baa6866bfecf07a0e4e8c33d.jpg:
0.1939 seconds

Inference Time for IMG_2473.jpeg.jpg.rf.6284677f9c781b0cfec54981a17d573.jpg:
0.1837 seconds

Inference Time for IMG_2477.jpeg.jpg.rf.7b2692f142d53c16ad477065f1f8ae6d.jpg:
0.1885 seconds

Inference Time for IMG_2496.jpeg.jpg.rf.3f91e7f18502074c89fa720a11926fab.jpg:
0.1993 seconds

Inference Time for IMG_2499.jpeg.jpg.rf.6ccb3719b9063388b5ab3ab826d7bd3.jpg:
0.1858 seconds

Inference Time for IMG_2514.jpeg.jpg.rf.6ccb3859d75fc5cfe053b1c1474254b2.jpg:
0.1648 seconds

Inference Time for IMG_2526.jpeg.jpg.rf.003e1d1d41bcd204df731b85cea68781.jpg:
0.1490 seconds

Inference Time for IMG_2532.jpeg.jpg.rf.2afeb76e5d9372dbbd6fbcc53d5b75675.jpg:
0.1547 seconds

Inference Time for IMG_2544.jpeg.jpg.rf.03f51bb9e1c57fb9cd62f8cbdca14e90.jpg:
0.1612 seconds

Inference Time for IMG_2547.jpeg.jpg.rf.9406b6f1a9fad2292c4abd28f712baaf.jpg:
0.1637 seconds

Inference Time for IMG_2570.jpeg.jpg.rf.ed40900b657a5b23d92cb2d296ad2dbc.jpg:
0.1466 seconds

Inference Time for IMG_2574.jpeg.jpg.rf.ca0c3ad32384309a61e92d9a8bef87b9.jpg:
0.1637 seconds

Inference Time for IMG_2582.jpeg.jpg.rf.14f175066ce74b470bf31fa0c7a096cd.jpg:
0.1524 seconds

Inference Time for IMG_2588.jpeg.jpg.rf.cb9cea8f05891cf55a3e93f2908201f.jpg:
0.1594 seconds

Inference Time for IMG_2630.jpeg.jpg.rf.310f0c986a72be46b80ce31c2d00e46d.jpg:
0.1587 seconds

Inference Time for IMG_2632.jpeg.jpg.rf.f44037edca490b16cbf06427e28ea946.jpg:
0.1585 seconds

Inference Time for IMG_2651.jpeg.jpg.rf.84b3930aa80b610cc97bf1c176763940.jpg:
0.1645 seconds

Inference Time for IMG_3129.jpeg.jpg.rf.90c472dcdf9b6713ec767cc97560ceca.jpg:
0.1701 seconds

Inference Time for IMG_3134.jpeg.jpg.rf.50750ca778773042a3c46a1d3e480132.jpg:
0.2325 seconds

Inference Time for IMG_3136.jpeg.jpg.rf.0d8fef73d4cc5e1c35ce424444d9e44b.jpg:
0.1536 seconds

Inference Time for IMG_3144.jpeg.jpg.rf.f29a36360174dc83ecef93275ed8f02e.jpg:
0.1603 seconds

Inference Time for IMG_3154.jpeg.jpg.rf.5f429a366c02d38bc9e2217f4508c3e0.jpg:
0.1442 seconds

Inference Time for IMG_3164.jpeg.jpg.rf.06637eee0b72df791aa729807ca45c4d.jpg:
0.1506 seconds

Inference Time for IMG_3173.jpeg.jpg.rf.6f05acaa0b22d410a5df3ea3286e227d.jpg:
0.1545 seconds

Inference Time for IMG_3175.jpeg.jpg.rf.686c7d36e049eea974a363e99bf0bee0.jpg:
0.1498 seconds

Inference Time for IMG_8331.jpg.rf.ec024bdf1e9de02b020b5e6505c1c58b.jpg: 0.1698
seconds

Inference Time for IMG_8343.jpg.rf.2d88000497d74d72aedc118b125a0c07.jpg: 0.1844
seconds

Inference Time for IMG_8395.jpg.rf.3bebece033961c9f665571644a14261f.jpg: 0.1536
seconds

Inference Time for IMG_8396.jpg.rf.106a6ced5c649ea81f0de8ecaa4ff3b8.jpg: 0.1736
seconds

Inference Time for IMG_8404.jpg.rf.265b89e862a375f6b89f781ea60ed480.jpg: 0.1833
seconds

Inference Time for IMG_8420.jpg.rf.31f1d5f1440e48ccf1dee988b565911b.jpg: 0.1703 seconds

Inference Time for IMG_8452.jpg.rf.6bbff701ab93e29553b3a70137fd4e66.jpg: 0.1786 seconds

Inference Time for IMG_8490.jpg.rf.1836542cf054c6d303a2dd05d4194d7f.jpg: 0.1819 seconds

Inference Time for IMG_8497_MOV-0.jpg.rf.5c59bd1bf7d8fd7a20999d51a79a12c0.jpg: 0.1526 seconds

Inference Time for IMG_8497_MOV-3.jpg.rf.fd813e14681c8b41e709a500748ce46a.jpg: 0.1501 seconds

Inference Time for IMG_8497_MOV-5.jpg.rf.3deffb208d656b7845661c5e33dd1afb.jpg: 0.1528 seconds

Inference Time for IMG_8513_MOV-0.jpg.rf.2a2f77e3f73630b60AAF6ad3ca4ed130.jpg: 0.1565 seconds

Inference Time for IMG_8515.jpg.rf.98a9daca7c5a5bad9872bd7fb2d4f198.jpg: 0.1508 seconds

Inference Time for IMG_8582_MOV-0.jpg.rf.aa8304d7a5112d63c8841d96160d42cd.jpg: 0.1518 seconds

Inference Time for IMG_8582_MOV-3.jpg.rf.c7dde0639837077f76428d70223368a4.jpg: 0.1487 seconds

Inference Time for IMG_8582_MOV-5.jpg.rf.9d7a26fbf145ce39ab0831b4e6bc1f1e.jpg: 0.1542 seconds

Inference Time for IMG_8590_MOV-2.jpg.rf.2136fdb5dcbcd58a1dc456bb3e5bf476.jpg: 0.1580 seconds

Inference Time for IMG_8590_MOV-5.jpg.rf.074e6d8acdd3fcad16d866c341b43769.jpg: 0.1673 seconds

Inference Time for IMG_8595_MOV-0.jpg.rf.312ab0b8b9fca18134aee88044f45a06.jpg: 0.1509 seconds

Inference Time for IMG_8599_MOV-3.jpg.rf.412ebb16ea80e964b4464c50e757df0e.jpg: 0.1500 seconds

Total Inference Time: 10.8732 seconds

Average Inference Time per Image: 0.1726 seconds