

```
from google.colab import drive
drive.mount('/content/drive')
```

Mounted at /content/drive

```
!nvidia-smi
```

Mon Mar 27 19:43:37 2023

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NVIDIA-SMI		525.85.12		Driver Version: 525.85.12			CUDA Version: 12.0		
-----									
GPU	Name		Persistence-M		Bus-Id	Disp.A	Volatile	Uncorr.	ECC
Fan	Temp	Perf	Pwr:Usage/Cap		Memory-Usage		GPU-Util	Compute M.	
								MIG M.	
=====									
0	Tesla T4		Off		00000000:00:04.0 Off		0		
N/A	48C	P8	9W / 70W		0MiB / 15360MiB		0%	Default	
								N/A	
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Processes:																	
GPU	GI	CI	PID	Type	Process name			GPU Memory									
		ID	ID						Usage								
=====																	
No running processes found																	
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```
!pip install ultralytics
```

Looking in indexes: <https://pypi.org/simple>, <https://us-python.pkg.dev/colab-wheels/public/simple/>

Collecting ultralytics

Downloading ultralytics-8.0.58-py3-none-any.whl (486 kB)

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486.8/486.8 KB 32.7 MB/s eta 0:00:00

```

Requirement already satisfied: tqdm>=4.64.0 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (4.65.0)
Requirement already satisfied: matplotlib>=3.2.2 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (3.7.1)
Requirement already satisfied: requests>=2.23.0 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (2.27.1)
Requirement already satisfied: Pillow>=7.1.2 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (8.4.0)
Requirement already satisfied: scipy>=1.4.1 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (1.10.1)
Collecting sentry-sdk
  Downloading sentry_sdk-1.17.0-py2.py3-none-any.whl (189 kB)
    

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 189.1/189.1 KB 22.2 MB/s eta 0:00:00
Requirement already satisfied: opencv-python>=4.6.0 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (4.7.0.72)
Requirement already satisfied: numpy>=1.21.6 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (1.22.4)
Requirement already satisfied: torch>=1.7.0 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (1.13.1+cu116)
Requirement already satisfied: torchvision>=0.8.1 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (0.14.1+cu116)
Collecting thop>=0.1.1
  Downloading thop-0.1.1.post2209072238-py3-none-any.whl (15 kB)
Requirement already satisfied: PyYAML>=5.3.1 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (6.0)
Requirement already satisfied: seaborn>=0.11.0 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (0.12.2)
Requirement already satisfied: psutil in /usr/local/lib/python3.9/dist-packages (from ultralytics) (5.9.4)
Requirement already satisfied: pandas>=1.1.4 in /usr/local/lib/python3.9/dist-packages (from ultralytics) (1.4.4)
Requirement already satisfied: importlib-resources>=3.2.0 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics)
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics)
Requirement already satisfied: python-dateutil>=2.7 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics) (0.11.0)
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics) (3.1.0)
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics) (4.22.0)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.9/dist-packages (from matplotlib>=3.2.2->ultralytics) (1.0.6)
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.9/dist-packages (from pandas>=1.1.4->ultralytics) (2022.7)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.9/dist-packages (from requests>=2.23.0->ultralytics) (3.4)
Requirement already satisfied: charset-normalizer~=2.0.0 in /usr/local/lib/python3.9/dist-packages (from requests>=2.23.0->ultralytics) (2.0.12)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.9/dist-packages (from requests>=2.23.0->ultralytics) (2022.9.24)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.9/dist-packages (from requests>=2.23.0->ultralytics) (1.26.15)
Requirement already satisfied: typing-extensions in /usr/local/lib/python3.9/dist-packages (from torch>=1.7.0->ultralytics) (4.5.0)
Requirement already satisfied: zipp>=3.1.0 in /usr/local/lib/python3.9/dist-packages (from importlib-resources>=3.2.0->matplotlib) (3.10.0)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.9/dist-packages (from python-dateutil>=2.7->matplotlib) (1.16.0)
Installing collected packages: sentry-sdk, thop, ultralytics
Successfully installed sentry-sdk-1.17.0 thop-0.1.1.post2209072238 ultralytics-8.0.58

```

```
from ultralytics import YOLO
```

```
!yolo mode=predict model=yolov8n.pt conf=0.25 source="../../../content/drive/MyDrive/photo_2023-03-27_22-13-11.jpg"
```

```
Downloading https://github.com/ultralytics/assets/releases/download/v0.0.0/yolov8n.pt to yolov8n.pt...
```

```
100% 6.23M/6.23M [00:00<00:00, 20.7MB/s]
```

```
Ultralytics YOLOv8.0.58 🚀 Python-3.9.16 torch-1.13.1+cu116 CUDA:0 (Tesla T4, 15102MiB)
```

```
YOLOv8n summary (fused): 168 layers, 3151904 parameters, 0 gradients, 8.7 GFLOPs
```

```
image 1/1 /content/drive/MyDrive/photo_2023-03-27_22-13-11.jpg: 640x384 1 sheep, 1 cow, 19.3ms
```

```
Speed: 0.7ms preprocess, 19.3ms inference, 43.6ms postprocess per image at shape (1, 3, 640, 640)
```

```
!yolo mode=predict model=yolov8l.pt conf=0.25 source="../../../content/drive/MyDrive/photo_2023-03-27_22-13-11.jpg"
```

```
Downloading https://github.com/ultralytics/assets/releases/download/v0.0.0/yolov8l.pt to yolov8l.pt...
```

```
100% 83.7M/83.7M [00:05<00:00, 14.9MB/s]
```

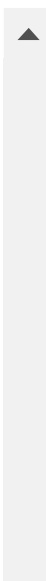
```
Ultralytics YOLOv8.0.58 🚀 Python-3.9.16 torch-1.13.1+cu116 CUDA:0 (Tesla T4, 15102MiB)
```

```
YOLOv8l summary (fused): 268 layers, 43668288 parameters, 0 gradients, 165.2 GFLOPs
```

```
image 1/1 /content/drive/MyDrive/photo_2023-03-27_22-13-11.jpg: 640x384 1 sheep, 48.8ms
```

```
Speed: 0.5ms preprocess, 48.8ms inference, 1.7ms postprocess per image at shape (1, 3, 640, 640)
```

```
!yolo task=detect mode=train model=yolov8n.pt data="../../../content/drive/MyDrive/yolov8model/Animal/animal.yaml" epochs
```



```

Class      Images  Instances  Box(P          R          mAP50  mAP50-95):  30% 3/10 [00:04<00:09, 1.35s/it]
Class      Images  Instances  Box(P          R          mAP50  mAP50-95):  40% 4/10 [00:05<00:08, 1.41s/it]
libpng warning: iCCP: known incorrect sRGB profile
Class      Images  Instances  Box(P          R          mAP50  mAP50-95): 100% 10/10 [00:09<00:00, 1.06it/s]
all         290      319      0.817      0.834      0.858      0.56
Stopping training early as no improvement observed in last 50 epochs. Best results observed at epoch 139, best model saved at
To update EarlyStopping(patience=50) pass a new patience value, i.e. `patience=300` or use `patience=0` to disable EarlyStopping

189 epochs completed in 3.530 hours.
Optimizer stripped from runs/detect/train/weights/last.pt, 87.6MB
Optimizer stripped from runs/detect/train/weights/best.pt, 87.6MB

Validating runs/detect/train/weights/best.pt...
Ultralytics YOLOv8.0.58 🚀 Python-3.9.16 torch-1.13.1+cu116 CUDA:0 (Tesla T4, 15102MiB)
Model summary (fused): 268 layers, 43615860 parameters, 0 gradients, 164.9 GFLOPs
Class      Images  Instances  Box(P          R          mAP50  mAP50-95):  10% 1/10 [00:01<00:14, 1.63s/it]
libpng warning: iCCP: known incorrect sRGB profile
libpng warning: iCCP: known incorrect sRGB profile
libpng warning: iCCP: known incorrect sRGB profile
Class      Images  Instances  Box(P          R          mAP50  mAP50-95):  20% 2/10 [00:03<00:12, 1.59s/it]
libpng warning: iCCP: known incorrect sRGB profile
Class      Images  Instances  Box(P          R          mAP50  mAP50-95):  30% 3/10 [00:05<00:12, 1.72s/it]
Class      Images  Instances  Box(P          R          mAP50  mAP50-95):  40% 4/10 [00:07<00:11, 1.84s/it]
libpng warning: iCCP: known incorrect sRGB profile
Class      Images  Instances  Box(P          R          mAP50  mAP50-95): 100% 10/10 [00:10<00:00, 1.05s/it]
all         290      319      0.869      0.868      0.9      0.599
Boar         290       13        1      0.834      0.933      0.67
Cheetah      290       25      0.972      0.96      0.966      0.641
Deer         290       31      0.67      0.774      0.709      0.304
Elephant     290       38      0.713      0.737      0.7      0.236
Hyena        290       27      0.861      0.926      0.971      0.702
Jaguar       290       25      0.76      1      0.963      0.812
Leopard      290       25      0.875      0.76      0.901      0.666
Lion         290       30      0.925      0.823      0.929      0.704
Panda        290       27      0.96      0.888      0.949      0.618
Snake        290       25      0.83      0.781      0.833      0.3
Tiger        290       26      0.941      1      0.985      0.804
Wolf         290       27      0.927      0.937      0.963      0.736

Speed: 2.9ms preprocess, 14.1ms inference, 0.0ms loss, 3.0ms postprocess per image

```

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+ Code

+ Text

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❗ 2m 58s completed at 01:23

● ✕