

▼ Importing the required libraries

```
import os

import glob

from IPython.display import Image, display
```

▼ Checking the GPU access

```
!nvidia-smi

Wed Oct 11 12:47:37 2023
+-----+
| NVIDIA-SMI 525.105.17    Driver Version: 525.105.17    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   47C   P8    9W /  70W |      0MiB / 15360MiB |     0%      Default |
|          |          |              | N/A                 |
+-----+
+-----+
| Processes:                               |
| GPU  GI  CI      PID  Type  Process name        GPU Memory  |
| ID   ID             ID              Usage          |
+-----+
| No running processes found            |
+-----+
```

▼ Setting the working directory

```
HOME = os.getcwd()

print(HOME)
/content
```

▼ Installing ultralytics package using pip install

```
!pip install ultralytics

Collecting ultralytics
  Downloading ultralytics-8.0.196-py3-none-any.whl (631 kB)
                                             631.1/631.1 kB 6.7 MB/s eta 0:00:00
Requirement already satisfied: matplotlib>=3.3.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (3.7.1)
Requirement already satisfied: numpy>=1.22.2 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (1.23.5)
Requirement already satisfied: opencv-python>=4.6.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (4.8.0.76)
Requirement already satisfied: pillow>=7.1.2 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (9.4.0)
Requirement already satisfied: pyyaml>=5.3.1 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (6.0.1)
Requirement already satisfied: requests>=2.23.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (2.31.0)
Requirement already satisfied: scipy>=1.4.1 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (1.11.3)
Requirement already satisfied: torch>=1.8.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (2.0.1+cu118)
Requirement already satisfied: torchvision>=0.9.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (0.15.2+cu118)
Requirement already satisfied: tqdm>=4.64.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (4.66.1)
Requirement already satisfied: pandas>=1.1.4 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (1.5.3)
Requirement already satisfied: seaborn>=0.11.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (0.12.2)
Requirement already satisfied: psutil in /usr/local/lib/python3.10/dist-packages (from ultralytics) (5.9.5)
Requirement already satisfied: py-cpuinfo in /usr/local/lib/python3.10/dist-packages (from ultralytics) (9.0.0)
Collecting thop>=0.1.1 (from ultralytics)
  Downloading thop-0.1.1.post2020072238-py3-none-any.whl (15 kB)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics) (1)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics) (0.12.
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics) (
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics) (
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics) (23
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics) (3
Requirement already satisfied: python-dateutil>=2.7 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.10/dist-packages (from pandas>=1.1.4->ultralytics) (2023.3.pc
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralyt
```

```
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics) (3.4)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics) (3.4)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics) (3.4)
Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (3.12.4)
Requirement already satisfied: typing-extensions in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (4.5.0)
Requirement already satisfied: sympy in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (1.12)
Requirement already satisfied: networkx in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (3.1)
Requirement already satisfied: jinja2 in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (3.1.2)
Requirement already satisfied: triton==2.0.0 in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (2.0.0)
Requirement already satisfied: cmake in /usr/local/lib/python3.10/dist-packages (from triton==2.0.0->torch>=1.8.0->ultralytics) (3.4)
Requirement already satisfied: lit in /usr/local/lib/python3.10/dist-packages (from triton==2.0.0->torch>=1.8.0->ultralytics) (17.0)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.7->matplotlib>=3.3.0->ultralytics) (3.4)
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-packages (from jinja2->torch>=1.8.0->ultralytics) (3.4)
Requirement already satisfied: mpmath>=0.19 in /usr/local/lib/python3.10/dist-packages (from sympy->torch>=1.8.0->ultralytics) (1.3)
Installing collected packages: thop, ultralytics
Successfully installed thop-0.1.1.post2209072238 ultralytics-8.0.196
```

▼ Checking YOLOv8 installation and working

```
import ultralytics

ultralytics.checks()

Ultralytics YOLOv8.0.196 🎉 Python-3.10.12 torch-2.0.1+cu118 CUDA:0 (Tesla T4, 15102MiB)
Setup complete ✅ (2 CPUs, 12.7 GB RAM, 26.5/78.2 GB disk)
```

▼ Making the dataset directory

```
!mkdir {HOME}/datasets

!pwd

/content

%cd {HOME}/datasets

/content/datasets

!pwd

/content/datasets
```

▼ Importing the custom dataset from Roboflow

```
!pip install roboflow

from roboflow import Roboflow
rf = Roboflow(api_key="U7dTYxWd6GhveGuZJTEv")
project = rf.workspace("college-ze5w1").project("sign_language-m6orh")
dataset = project.version(12).download("yolov8")
```

```

Collecting roboflow
  Downloading roboflow-1.1.7-py3-none-any.whl (58 kB)      58.8/58.8 kB 1.7 MB/s eta 0:00:00
Collecting certifi==2022.12.7 (from roboflow)
  Downloading certifi-2022.12.7-py3-none-any.whl (155 kB)   155.3/155.3 kB 5.9 MB/s eta 0:00:00
Collecting chardet==4.0.0 (from roboflow)
  Downloading chardet-4.0.0-py2.py3-none-any.whl (178 kB)  178.7/178.7 kB 8.3 MB/s eta 0:00:00
Collecting cycler==0.10.0 (from roboflow)
  Downloading cycler-0.10.0-py2.py3-none-any.whl (6.5 kB)
Collecting idna==2.10 (from roboflow)
  Downloading idna-2.10-py2.py3-none-any.whl (58 kB)       58.8/58.8 kB 8.8 MB/s eta 0:00:00
Requirement already satisfied: kiwisolver>=1.3.1 in /usr/local/lib/python3.10/dist-packages (from roboflow) (1.4.5)
Requirement already satisfied: matplotlib in /usr/local/lib/python3.10/dist-packages (from roboflow) (3.7.1)
Requirement already satisfied: numpy>=1.18.5 in /usr/local/lib/python3.10/dist-packages (from roboflow) (1.23.5)
Collecting opencv-python-headless==4.8.0.74 (from roboflow)
  Downloading opencv_python_headless-4.8.0.74-cp37abi3-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (49.1 MB)  49.1/49.1 kB 19.5 MB/s eta 0:00:00
Requirement already satisfied: Pillow>=7.1.2 in /usr/local/lib/python3.10/dist-packages (from roboflow) (9.4.0)
Collecting pyparsing==2.4.7 (from roboflow)
  Downloading pyparsing-2.4.7-py2.py3-none-any.whl (67 kB)  67.8/67.8 kB 10.1 MB/s eta 0:00:00
Requirement already satisfied: python-dateutil in /usr/local/lib/python3.10/dist-packages (from roboflow) (2.8.2)
Collecting python-dotenv (from roboflow)
  Downloading python_dotenv-1.0.0-py3-none-any.whl (19 kB)
Requirement already satisfied: requests in /usr/local/lib/python3.10/dist-packages (from roboflow) (2.31.0)
Requirement already satisfied: six in /usr/local/lib/python3.10/dist-packages (from roboflow) (1.16.0)
Collecting supervision (from roboflow)
  Downloading supervision-0.15.0-py3-none-any.whl (69 kB)    69.0/69.0 kB 10.1 MB/s eta 0:00:00
Requirement already satisfied: urllib3>=1.26.6 in /usr/local/lib/python3.10/dist-packages (from roboflow) (2.0.6)
Requirement already satisfied: tqdm>=4.41.0 in /usr/local/lib/python3.10/dist-packages (from roboflow) (4.66.1)
Requirement already satisfied: PyYAML>=5.3.1 in /usr/local/lib/python3.10/dist-packages (from roboflow) (6.0.1)
Collecting requests-toolbelt (from roboflow)
  Downloading requests_toolbelt-1.0.0-py2.py3-none-any.whl (54 kB)  54.5/54.5 kB 8.0 MB/s eta 0:00:00
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib->roboflow) (1.1.1)
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib->roboflow) (4.43.1)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib->roboflow) (23.2)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests->roboflow) (3.1.0)
Requirement already satisfied: scipy<2.0.0,>=1.9.0 in /usr/local/lib/python3.10/dist-packages (from supervision->roboflow) (1.11)
Installing collected packages: python-dotenv, pyparsing, opencv-python-headless, idna, cycler, chardet, certifi, supervision, requests-toolbelt
  Attempting uninstall: pyparsing
    Found existing installation: pyparsing 3.1.1
    Uninstalling pyparsing-3.1.1:
      Successfully uninstalled pyparsing-3.1.1
  Attempting uninstall: opencv-python-headless
    Found existing installation: opencv-python-headless 4.8.1.78
    Uninstalling opencv-python-headless-4.8.1.78:
      Successfully uninstalled opencv-python-headless-4.8.1.78
  Attempting uninstall: idna
    Found existing installation: idna 3.4
    Uninstalling idna-3.4:
      Successfully uninstalled idna-3.4
  Attempting uninstall: cycler
    Found existing installation: cycler 0.12.0
    Uninstalling cycler-0.12.0:
      Successfully uninstalled cycler-0.12.0
%cd {HOME}
  Found existing installation: chardet 5.2.0
%cd {datasets.location}
  Attempting uninstall: certifi
    Successfully uninstalled certifi

```

Training the YOLOv8 model on custom dataset model.

```

Successfully installed certifi-2022.12.7 chardet-4.0.0 cycler-0.10.0 idna-2.10 opencv-python-headless-4.8.0.74 pyparsing-2.4.7 python-dotenv-1.0.0 requests-2.31.0 requests-toolbelt-1.0.0 supervision-0.15.0
%cd {HOME}
!yolo task=detect mode=train model=yolov8x.pt data=/content/datasets/Sign_language-12/data.yaml epochs=150 imgsz=640

```

	Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances			
147/150		14.2G	0.3744	0.1999	0.9262	6	Size		
	Class all	Images	40	42	Box(P)	R	640: 100% 55/55 [01:03<00:00, 1.15s/it]	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.48it/s]
							mAP50 mAP50-95): 100% 2/2 [00:01<00:00, 1.44it/s]		
148/150		14.1G	0.3653	0.1948	0.9163	6	Size		
	Class all	Images	40	42	Box(P)	R	640: 100% 55/55 [01:03<00:00, 1.15s/it]	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.46it/s]
							mAP50 mAP50-95): 100% 2/2 [00:01<00:00, 1.46it/s]		
149/150		14.1G	0.3759	0.1975	0.9309	6	Size		
	Class all	Images	40	42	Box(P)	R	640: 100% 55/55 [01:03<00:00, 1.15s/it]	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.32it/s]
							mAP50 mAP50-95): 100% 2/2 [00:01<00:00, 1.32it/s]		
150/150		14.1G	0.3553	0.1923	0.9238	6	Size		
	Class all	Images	40	42	Box(P)	R	640: 100% 55/55 [01:03<00:00, 1.15s/it]	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.47it/s]
							mAP50 mAP50-95): 100% 2/2 [00:01<00:00, 1.47it/s]		

150 epochs completed in 2.904 hours.

Optimizer stripped from runs/detect/train/weights/last.pt, 136.7MB

Optimizer stripped from runs/detect/train/weights/best.pt, 136.7MB

Validating runs/detect/train/weights/best.pt...

Ultralytics YOLOv8.0.196 🦋 Python-3.10.12 torch-2.0.1+cu118 CUDA:0 (Tesla T4, 15102MiB)

Model summary (fused): 268 layers, 68128383 parameters, 0 gradients, 257.4 GFLOPs

	Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.36it/s]
	all	40	42	0.992	0.98	0.995	0.863
	Hello	40	8	0.979	1	0.995	0.898
	Home	40	8	1	1	0.995	0.856
	No	40	9	1	0.898	0.995	0.842
	Please	40	8	1	1	0.995	0.899
	Yes	40	9	0.979	1	0.995	0.819

Speed: 0.2ms preprocess, 29.5ms inference, 0.0ms loss, 0.9ms postprocess per image

Results saved to runs/detect/train

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

```
!ls {HOME}//runs/detect/train
```

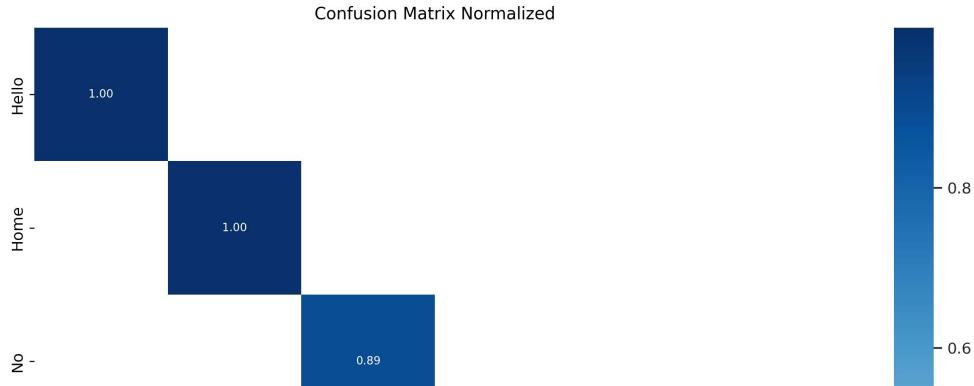
args.yaml	train_batch0.jpg
confusion_matrix_normalized.png	train_batch1.jpg
confusion_matrix.png	train_batch2.jpg
events.out.tfevents.1697028617.ced5adf59e14.1454.0	train_batch7700.jpg
F1_curve.png	train_batch7701.jpg
labels_correlogram.jpg	train_batch7702.jpg
labels.jpg	val_batch0_labels.jpg
P_curve.png	val_batch0_pred.jpg
PR_curve.png	val_batch1_labels.jpg
R_curve.png	val_batch1_pred.jpg
results.csv	weights
results.png	

▼ Displaying the confusion matrix

```
%cd {HOME}
```

```
Image(filename=f'{HOME}/runs/detect/train/confusion_matrix_normalized.png', width=900)
```

```
/content
```

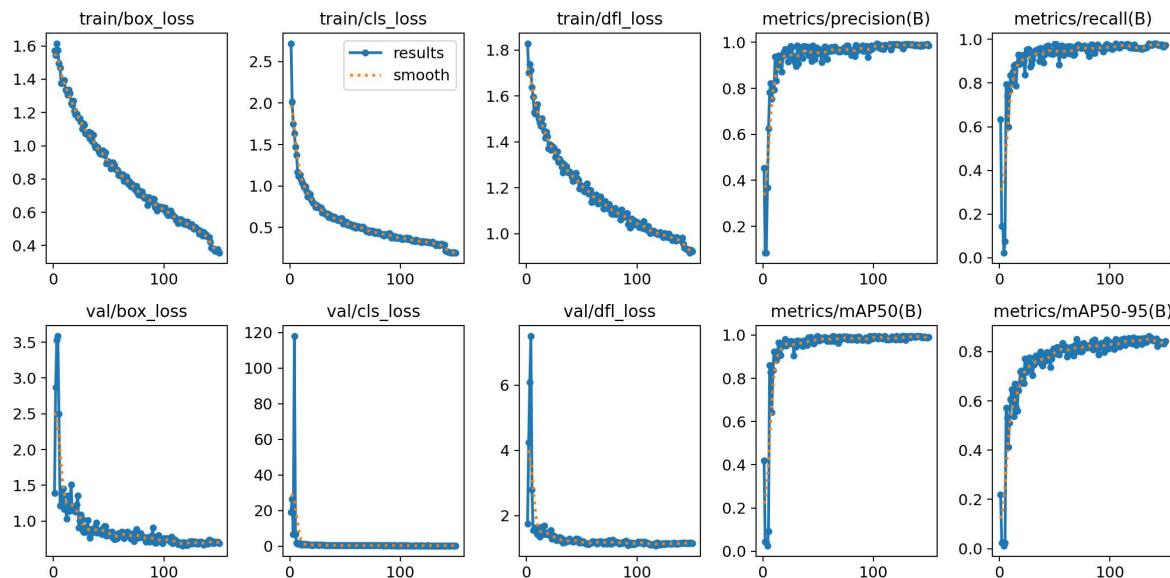


▼ Displaying results of the trained model (Training and Validation Loss)

```
%cd {HOME}
```

```
Image(filename=f'{HOME}/runs/detect/train/results.png', width=900)
```

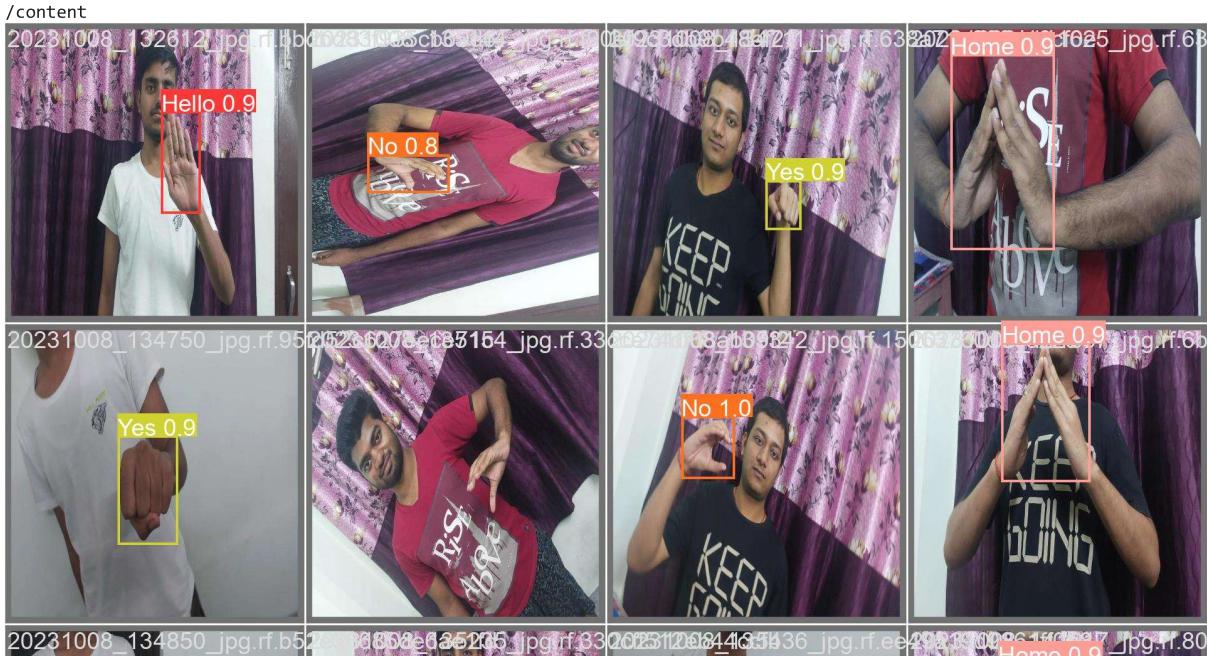
```
/content
```



▼ validating the trained model for custom images

```
%cd {HOME}
```

```
Image(filename=f'{HOME}/runs/detect/train/val_batch0_pred.jpg', width=900)
```



▼ Validating Custom Model

```
%cd {HOME}

!yolo task=detect mode=val model={HOME}/runs/detect/train/weights/best.pt data=/content/datasets/Sign_language-12/data.yaml

/content
Ultralytics YOLOv8.0.196 🚀 Python-3.10.12 torch-2.0.1+cu118 CUDA:0 (Tesla T4, 15102MiB)
Model summary (fused): 268 layers, 68128383 parameters, 0 gradients, 257.4 GFLOPs
val: Scanning /content/datasets/Sign_language-12/valid/labels.cache... 40 images, 0 backgrounds, 0 corrupt: 100% 40/40 [00:00<?, ?i
      Class   Images  Instances    Box(P)      R      mAP50  mAP50-95): 100% 3/3 [00:04<00:00,  1.39s/it]
          all     40       42    0.992      0.98    0.995    0.865
          Hello    40        8    0.979      1      0.995    0.91
          Home     40        8      1      1      0.995    0.856
          No       40        9      1      0.898    0.995    0.842
          Please    40        8      1      1      0.995    0.899
          Yes      40        9    0.979      1      0.995    0.819
Speed: 6.9ms preprocess, 64.0ms inference, 0.0ms loss, 7.6ms postprocess per image
Results saved to runs/detect/val
💡 Learn more at https://docs.ultralytics.com/modes/val
```

▼ Predictions on Some Image Datasets

```
%cd {HOME}

!yolo task=detect mode=predict model={HOME}/runs/detect/train/weights/best.pt conf=0.25 source='/content/datasets/Sign_language-12/test/':

/content
Ultralytics YOLOv8.0.196 🚀 Python-3.10.12 torch-2.0.1+cu118 CUDA:0 (Tesla T4, 15102MiB)
Model summary (fused): 268 layers, 68128383 parameters, 0 gradients, 257.4 GFLOPs

image 1/20 /content/datasets/Sign_language-12/test/images/20231008_132532.jpg.rf.a3255babf20f8fd0906f3924d17e75de.jpg: 640x640 1 He
image 2/20 /content/datasets/Sign_language-12/test/images/20231008_132552.jpg.rf.07babce8f48887e1cb40ccdf8fb77a91.jpg: 640x640 1 He
image 3/20 /content/datasets/Sign_language-12/test/images/20231008_132627.jpg.rf.d8bf5bb2c542a8ddcdec00121c22eac.jpg: 640x640 1 He
image 4/20 /content/datasets/Sign_language-12/test/images/20231008_132730.jpg.rf.ab75e36c3d7fb0651f644d2792b5a294.jpg: 640x640 1 He
image 5/20 /content/datasets/Sign_language-12/test/images/20231008_133847.jpg.rf.a4b4e0fd2d3768b814ba640317578910.jpg: 640x640 2 Pl
image 6/20 /content/datasets/Sign_language-12/test/images/20231008_133916.jpg.rf.a254e3dfb9a9b32668de7f1b54b90e3.jpg: 640x640 1 Pl
image 7/20 /content/datasets/Sign_language-12/test/images/20231008_133945.jpg.rf.a85575e13a8e9fd2e0869db2e449bf.jpg: 640x640 1 Pl
image 8/20 /content/datasets/Sign_language-12/test/images/20231008_133947.jpg.rf.1feb048df741aed6a43f337cea216a091.jpg: 640x640 1 Pl
image 9/20 /content/datasets/Sign_language-12/test/images/20231008_134556.jpg.rf.f42b7f8906108f580c2227ea5c77cab1.jpg: 640x640 1 Ye
image 10/20 /content/datasets/Sign_language-12/test/images/20231008_134613.jpg.rf.c7bbb163d4e7f05a3a0552da1cdf162.jpg: 640x640 1 Y
image 11/20 /content/datasets/Sign_language-12/test/images/20231008_134712.jpg.rf.9d793f0d4431165a9a3f5acf3a0f7348.jpg: 640x640 1 Y
image 12/20 /content/datasets/Sign_language-12/test/images/20231008_134753.jpg.rf.82fe314779849fc88a7953392bab462.jpg: 640x640 1 Y
image 13/20 /content/datasets/Sign_language-12/test/images/20231008_135142.jpg.rf.082c2c3a819c857af6267ab57b7381a1.jpg: 640x640 1 N
image 14/20 /content/datasets/Sign_language-12/test/images/20231008_135152.jpg.rf.001c5e6a8fe8015a60651eb142602490.jpg: 640x640 1 N
image 15/20 /content/datasets/Sign_language-12/test/images/20231008_135341.jpg.rf.0195daa756be818862aa3f48993ae331.jpg: 640x640 1 N
image 16/20 /content/datasets/Sign_language-12/test/images/20231008_135445.jpg.rf.0f5026cdf7d11461960ec086bf2e125.jpg: 640x640 1 N
image 17/20 /content/datasets/Sign_language-12/test/images/20231008_141623.jpg.rf.b93fa9e1d60193aebc0c275a9621ee62.jpg: 640x640 1 H
image 18/20 /content/datasets/Sign_language-12/test/images/20231008_141749.jpg.rf.f38de8e4184f218ca9534bf3d3da675b.jpg: 640x640 1 H
image 19/20 /content/datasets/Sign_language-12/test/images/20231008_141838.jpg.rf.e4e8f3e4f0f938c5a0d10abe73a2681.jpg: 640x640 1 H
image 20/20 /content/datasets/Sign_language-12/test/images/20231008_142236.jpg.rf.3f7cd0ba98c6432ac4d4046382402f8f.jpg: 640x640 1 H
Speed: 1.6ms preprocess, 56.3ms inference, 11.9ms postprocess per image at shape (1, 3, 640, 640)
```

Results saved to runs/detect/predict
💡 Learn more at <https://docs.ultralytics.com/modes/predict>

▼ Displaying the predicted Images

```
import glob
from IPython.display import Image, display

for image_path in glob.glob(f'{HOME}/runs/detect/predict/*.jpg')[:3]:
    display(Image(filename=image_path, width=400))
    print("\n")
```



```
!zip -r /content/runs.zip /content/runs
```

https://colab.research.google.com/drive/1FqvTPjat5TV3Brg_B_jgQjeooY6bt9q4#scrollTo=uyLHWKPbiy14&printMode=true

▼ Downloading the video for prediction

```
!gdown "https://drive.google.com/u/0/uc?id=1c8qjuzaeZGI5dKISwdloWlxzQMdKUOpM&export=download"
```

```
Downloading...
From: https://drive.google.com/u/0/uc?id=1c8qjuzaeZGI5dKISwdloWlxzQMdKUOpM&export=download
To: /content/model_arif.mp4
100% 133M/133M [00:05<00:00, 23.7MB/s]
```

▼ Detection of Demo Video

```
%cd {HOME}
```

```
yolo task=detect mode=predict model={HOME}/runs/detect/train/weights/best.pt conf=0.25 source='content/model_arif.mp4'

video 1/1 (818/1577) /content/model_arif.mp4: 640x384 1 No, 1 Yes, 29.2ms
video 1/1 (819/1577) /content/model_arif.mp4: 640x384 1 No, 30.2ms
video 1/1 (820/1577) /content/model_arif.mp4: 640x384 1 No, 29.3ms
video 1/1 (821/1577) /content/model_arif.mp4: 640x384 1 No, 29.7ms
video 1/1 (822/1577) /content/model_arif.mp4: 640x384 1 No, 30.8ms
video 1/1 (823/1577) /content/model_arif.mp4: 640x384 1 No, 31.1ms
video 1/1 (824/1577) /content/model_arif.mp4: 640x384 1 No, 31.1ms
video 1/1 (825/1577) /content/model_arif.mp4: 640x384 1 No, 32.0ms
video 1/1 (826/1577) /content/model_arif.mp4: 640x384 1 No, 31.5ms
video 1/1 (827/1577) /content/model_arif.mp4: 640x384 1 No, 31.6ms
video 1/1 (828/1577) /content/model_arif.mp4: 640x384 1 No, 31.6ms
video 1/1 (829/1577) /content/model_arif.mp4: 640x384 1 No, 31.4ms
video 1/1 (830/1577) /content/model_arif.mp4: 640x384 1 No, 29.7ms
video 1/1 (831/1577) /content/model_arif.mp4: 640x384 1 No, 30.1ms
video 1/1 (832/1577) /content/model_arif.mp4: 640x384 1 No, 29.8ms
video 1/1 (833/1577) /content/model_arif.mp4: 640x384 1 No, 29.9ms
video 1/1 (834/1577) /content/model_arif.mp4: 640x384 1 No, 30.3ms
video 1/1 (835/1577) /content/model_arif.mp4: 640x384 1 No, 29.5ms
video 1/1 (836/1577) /content/model_arif.mp4: 640x384 1 No, 30.3ms
video 1/1 (837/1577) /content/model_arif.mp4: 640x384 1 No, 29.1ms
video 1/1 (838/1577) /content/model_arif.mp4: 640x384 1 No, 29.8ms
video 1/1 (839/1577) /content/model_arif.mp4: 640x384 1 No, 31.1ms
video 1/1 (840/1577) /content/model_arif.mp4: 640x384 1 No, 31.6ms
video 1/1 (841/1577) /content/model_arif.mp4: 640x384 1 No, 31.0ms
video 1/1 (842/1577) /content/model_arif.mp4: 640x384 2 Nos, 31.1ms
video 1/1 (843/1577) /content/model_arif.mp4: 640x384 1 No, 31.3ms
video 1/1 (844/1577) /content/model_arif.mp4: 640x384 1 No, 31.2ms
video 1/1 (845/1577) /content/model_arif.mp4: 640x384 1 No, 31.3ms
video 1/1 (846/1577) /content/model_arif.mp4: 640x384 2 Nos, 31.1ms
video 1/1 (847/1577) /content/model_arif.mp4: 640x384 1 No, 29.4ms
video 1/1 (848/1577) /content/model_arif.mp4: 640x384 1 No, 29.3ms
video 1/1 (849/1577) /content/model_arif.mp4: 640x384 1 No, 29.9ms
video 1/1 (850/1577) /content/model_arif.mp4: 640x384 1 No, 30.0ms
video 1/1 (851/1577) /content/model_arif.mp4: 640x384 1 No, 29.7ms
video 1/1 (852/1577) /content/model_arif.mp4: 640x384 1 No, 30.2ms
video 1/1 (853/1577) /content/model_arif.mp4: 640x384 1 No, 31.1ms
video 1/1 (854/1577) /content/model_arif.mp4: 640x384 1 No, 30.6ms
video 1/1 (855/1577) /content/model_arif.mp4: 640x384 1 No, 30.6ms
video 1/1 (856/1577) /content/model_arif.mp4: 640x384 1 No, 30.3ms
video 1/1 (857/1577) /content/model_arif.mp4: 640x384 1 No, 29.2ms
video 1/1 (858/1577) /content/model_arif.mp4: 640x384 1 No, 29.7ms
video 1/1 (859/1577) /content/model_arif.mp4: 640x384 1 No, 30.1ms
video 1/1 (860/1577) /content/model_arif.mp4: 640x384 1 No, 30.5ms
video 1/1 (861/1577) /content/model_arif.mp4: 640x384 1 No, 30.0ms
video 1/1 (862/1577) /content/model_arif.mp4: 640x384 1 No, 30.8ms
video 1/1 (863/1577) /content/model_arif.mp4: 640x384 1 No, 30.0ms
video 1/1 (864/1577) /content/model_arif.mp4: 640x384 1 No, 31.7ms
video 1/1 (865/1577) /content/model_arif.mp4: 640x384 1 No, 31.4ms
video 1/1 (866/1577) /content/model_arif.mp4: 640x384 1 No, 31.5ms
video 1/1 (867/1577) /content/model_arif.mp4: 640x384 1 No, 29.5ms
video 1/1 (868/1577) /content/model_arif.mp4: 640x384 1 No, 29.9ms
video 1/1 (869/1577) /content/model_arif.mp4: 640x384 1 No, 30.0ms
video 1/1 (870/1577) /content/model_arif.mp4: 640x384 1 No, 29.4ms
video 1/1 (871/1577) /content/model_arif.mp4: 640x384 1 No, 30.2ms
video 1/1 (872/1577) /content/model_arif.mp4: 640x384 1 No, 29.4ms
video 1/1 (873/1577) /content/model_arif.mp4: 640x384 1 No, 29.7ms
video 1/1 (874/1577) /content/model_arif.mp4: 640x384 1 No, 30.1ms
video 1/1 (875/1577) /content/model_arif.mp4: 640x384 1 No, 30.3ms
video 1/1 (876/1577) /content/model_arif.mp4: 640x384 1 No, 29.9ms
```

Model Training and Validation Finished