```
!git clone https://github.com/ultralytics/ultralytics
!cd ultralytics
!pip install -e ultralytics
     Cloning into 'ultralytics'...
     remote: Enumerating objects: 23815, done.
     remote: Counting objects: 100% (339/339), done.
     remote: Compressing objects: 100% (198/198), done.
     remote: Total 23815 (delta 205), reused 232 (delta 141), pack-reused 23476
     Receiving objects: 100% (23815/23815), 14.00 MiB | 27.68 MiB/s, done.
     Resolving deltas: 100% (16686/16686), done.
     Obtaining file:///kaggle/working/ultralytics
       Installing build dependencies \dots done
       Checking if build backend supports build_editable ... done
       Getting requirements to build editable \dots done
       Preparing editable metadata (pyproject.toml) ... done
     Requirement already satisfied: matplotlib>=3.3.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (3.7.5)
     Requirement already satisfied: opencv-python>=4.6.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (4.9.0.
     Requirement already satisfied: pillow>=7.1.2 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (9.5.0)
     Requirement already satisfied: pyyaml>=5.3.1 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (6.0.1)
     Requirement already satisfied: requests>=2.23.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (2.31.0)
     Requirement already satisfied: scipy>=1.4.1 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (1.11.4)
     Requirement already satisfied: torch>=1.8.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (2.1.2)
     Requirement already satisfied: torchvision>=0.9.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (0.16.2)
     Requirement already satisfied: tqdm>=4.64.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (4.66.1)
     Requirement already satisfied: psutil in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (5.9.3)
     Requirement already satisfied: py-cpuinfo in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (9.0.0)
     Collecting thop>=0.1.1 (from ultralytics==8.1.37)
       Downloading thop-0.1.1.post2209072238-py3-none-any.whl.metadata (2.7 kB)
     Requirement already satisfied: pandas>=1.1.4 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (2.1.4)
     Requirement already satisfied: seaborn>=0.11.0 in /opt/conda/lib/python3.10/site-packages (from ultralytics==8.1.37) (0.12.2)
     Requirement already satisfied: contourpy>=1.0.1 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics==
     Requirement already satisfied: cycler>=0.10 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics==8.1.
     Requirement already satisfied: fonttools>=4.22.0 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics=
     Requirement already satisfied: kiwisolver>=1.0.1 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics=
     Requirement already satisfied: numpy<2,>=1.20 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics==8.
     Requirement already satisfied: packaging>=20.0 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics==8
     Requirement already satisfied: pyparsing>=2.3.1 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralytics==
     Requirement already satisfied: python-dateutil>=2.7 in /opt/conda/lib/python3.10/site-packages (from matplotlib>=3.3.0->ultralyti
     Requirement already satisfied: pytz>=2020.1 in /opt/conda/lib/python3.10/site-packages (from pandas>=1.1.4->ultralytics==8.1.37)
     Requirement already satisfied: tzdata>=2022.1 in /opt/conda/lib/python3.10/site-packages (from pandas>=1.1.4->ultralytics==8.1.37
     Requirement already satisfied: charset-normalizer<4,>=2 in /opt/conda/lib/python3.10/site-packages (from requests>=2.23.0->ultral
     Requirement already satisfied: idna<4,>=2.5 in /opt/conda/lib/python3.10/site-packages (from requests>=2.23.0->ultralytics==8.1.3
     Requirement already satisfied: urllib3<3,>=1.21.1 in /opt/conda/lib/python3.10/site-packages (from requests>=2.23.0->ultralytics=
     Requirement already satisfied: certifi>=2017.4.17 in /opt/conda/lib/python3.10/site-packages (from requests>=2.23.0->ultralytics=
     Requirement already satisfied: filelock in /opt/conda/lib/python3.10/site-packages (from torch>=1.8.0->ultralytics==8.1.37) (3.13
     Requirement already satisfied: typing-extensions in /opt/conda/lib/python3.10/site-packages (from torch>=1.8.0->ultralytics==8.1.
     Requirement already satisfied: sympy in /opt/conda/lib/python3.10/site-packages (from torch>=1.8.0->ultralytics==8.1.37) (1.12)
     Requirement already satisfied: networkx in /opt/conda/lib/python3.10/site-packages (from torch>=1.8.0->ultralytics==8.1.37) (3.2.
     Requirement already satisfied: jinja2 in /opt/conda/lib/python3.10/site-packages (from torch>=1.8.0->ultralytics==8.1.37) (3.1.2)
     Requirement already satisfied: fsspec in /opt/conda/lib/python3.10/site-packages (from torch>=1.8.0->ultralytics==8.1.37) (2024.3
     Requirement already satisfied: six>=1.5 in /opt/conda/lib/python3.10/site-packages (from python-dateutil>=2.7->matplotlib>=3.3.0-
     Requirement already satisfied: MarkupSafe>=2.0 in /opt/conda/lib/python3.10/site-packages (from jinja2->torch>=1.8.0->ultralytics
     Requirement already satisfied: mpmath>=0.19 in /opt/conda/lib/python3.10/site-packages (from sympy->torch>=1.8.0->ultralytics==8.
     Downloading thop-0.1.1.post2209072238-py3-none-any.whl (15 kB)
     Building wheels for collected packages: ultralytics
       Building editable for ultralytics (pyproject.toml) \dots done
       Created wheel for ultralytics: filename=ultralytics-8.1.37-0.editable-py3-none-any.whl size=22678 sha256=88b0984113091ab541a4ab
       Stored in directory: /tmp/pip-ephem-wheel-cache-6s_htekm/wheels/1b/eb/7d/853f2df0532389050170c8cd117b40e1fef8d125854a910fe6
     Successfully built ultralytics
     Installing collected packages: thop, ultralytics
!mv -v /kaggle/working/SiriusPeople-2/train/ /kaggle/working/SiriusPeople-2/SiriusPeople-2
     renamed '/kaggle/working/SiriusPeople-2/train' -> '/kaggle/working/SiriusPeople-2/SiriusPeople-2/train'
!pip install roboflow
from roboflow import Roboflow
rf = Roboflow(api_key="S62ekBggIVOzYZDwemop")
project = rf.workspace("ivansaydyashev").project("siriuspeople")
version = project.version(2)
dataset = version.download("yolov7")
     Traceback (most recent call last):
       File "/opt/conda/bin/pip", line 6, in <module>
         from pip. internal.cli.main import main
       File "/opt/conda/lib/python3.10/site-packages/pip/_internal/cli/main.py", line 10, in <module>
         from pip._internal.cli.autocompletion import autocomplete
       File "/opt/conda/lib/python3.10/site-packages/pip/_internal/cli/autocompletion.py", line 10, in <module>
         from pip._internal.cli.main_parser import create_main_parser
```

```
\label{limit} File \ "/opt/conda/lib/python3.10/site-packages/pip/\_internal/cli/main\_parser.py", \ line \ 9, \ in \ <module>
         from pip._internal.build_env import get_runnable_pip
       File "/opt/conda/lib/python3.10/site-packages/pip/_internal/build_env.py", line 19, in <module>
         from pip._internal.cli.spinners import open_spinner
       File "/opt/conda/lib/python3.10/site-packages/pip/_internal/cli/spinners.py", line 9, in <module>
         from pip._internal.utils.logging import get_indentation
       File "/opt/conda/lib/python3.10/site-packages/pip/_internal/utils/logging.py", line 13, in <module>
         from pip._vendor.rich.console import (
       File "/opt/conda/lib/python3.10/site-packages/pip/_vendor/rich/console.py", line 56, in <module>
         from .highlighter import NullHighlighter, ReprHighlighter
       File "/opt/conda/lib/python3.10/site-packages/pip/_vendor/rich/highlighter.py", line 143, in <module>
         class ISO8601Highlighter(RegexHighlighter):
       File "/opt/conda/lib/python3.10/abc.py", line 106, in __new_
         cls = super().__new__(mcls, name, bases, namespace, **kwargs)
     KeyboardInterrupt
     loading Roboflow workspace...
     loading Roboflow project...
!wandb off
!volo task=detect \
mode=train \
model=yolov8s.pt \
data={dataset.location}/data.yaml \
epochs=250 \
imgsz=640
    W&B offline. Running your script from this directory will only write metadata locally. Use wandb disabled to completely turn off
     engine/trainer: task=detect, mode=train, model=yolov8s.pt, data=/kaggle/working/SiriusPeople-2/data.yaml, epochs=250, time=None,
     2024-03-30 16:44:10.002698: E external/local_xla/xla/stream_executor/cuda/cuda_dnn.cc:9261] Unable to register cuDNN factory: Att
     2024-03-30 16:44:10.002759: E external/local_xla/xla/stream_executor/cuda/cuda_fft.cc:607] Unable to register cuFFT factory: Atte
     2024-03-30 16:44:10.004415: E external/local_xla/xla/stream_executor/cuda/cuda_blas.cc:1515] Unable to register cuBLAS factory: A
     Overriding model.yaml nc=80 with nc=3
                                    params module
                         from n
                                                                                           arguments
       a
                          -1 1
                                       928 ultralytics.nn.modules.conv.Conv
                                                                                           [3, 32, 3, 2]
       1
                          -1 1
                                     18560 ultralytics.nn.modules.conv.Conv
                                                                                           [32, 64, 3, 2]
                          -1 1
                                     29056 ultralytics.nn.modules.block.C2f
                                                                                           [64, 64, 1, True]
       3
                          -1
                                     73984 ultralytics.nn.modules.conv.Conv
                                                                                           [64, 128, 3, 2]
                              1
                          -1
                                    197632 ultralytics.nn.modules.block.C2f
                                                                                           [128, 128, 2, True]
                          -1
                                    295424 ultralytics.nn.modules.conv.Conv
                                                                                           [128, 256, 3, 2]
                                                                                           [256, 256, 2, True]
                                    788480 ultralvtics.nn.modules.block.C2f
       6
                          -1
                                                                                           [256, 512, 3, 2]
[512, 512, 1, True]
                                   1180672 ultralytics.nn.modules.conv.Conv
                           -1
                              1
       8
                          -1
                                   1838080 ultralytics.nn.modules.block.C2f
                              1
       9
                          -1
                             1
                                    656896
                                            ultralytics.nn.modules.block.SPPF
                                                                                           [512, 512, 5]
      10
                           -1
                              1
                                        a
                                           torch.nn.modules.upsampling.Upsample
                                                                                           [None, 2, 'nearest']
      11
                     [-1, 6]
                              1
                                         0 ultralytics.nn.modules.conv.Concat
                                                                                           [1]
                                    591360 ultralytics.nn.modules.block.C2f
                                                                                           [768, 256, 1]
      12
                           -1
                              1
                                                                                           [None, 2, 'nearest']
      13
                           -1
                                         0 torch.nn.modules.upsampling.Upsample
      14
                     [-1, 4]
                                         0 ultralytics.nn.modules.conv.Concat
                                                                                           [1]
                                    148224 ultralytics.nn.modules.block.C2f
                                                                                           [384, 128, 1]
      15
                              1
                           -1
                           -1
                                    147712 ultralytics.nn.modules.conv.Conv
                                                                                           [128, 128, 3, 2]
      16
                              1
      17
                    [-1, 12] 1
                                        0 ultralytics.nn.modules.conv.Concat
                                                                                           [1]
                                    493056 ultralytics.nn.modules.block.C2f
      18
                          -1
                              1
                                                                                           [384, 256, 1]
                                    590336 ultralytics.nn.modules.conv.Conv
                                                                                           [256, 256, 3, 2]
      19
                           -1
                              1
      20
                     [-1, 9]
                             1
                                         0 ultralytics.nn.modules.conv.Concat
                                                                                           [1]
      21
                              1
                                   1969152 ultralytics.nn.modules.block.C2f
                                                                                           [768, 512, 1]
                           -1
      22
                [15, 18, 21] 1
                                   2117209 ultralytics.nn.modules.head.Detect
                                                                                           [3, [128, 256, 512]]
     Model summary: 225 layers, 11136761 parameters, 11136745 gradients, 28.7 GFLOPs
     Transferred 349/355 items from pretrained weights
     TensorBoard: Start with 'tensorboard --logdir /kaggle/working/ultralytics/runs/detect/train3', view at <a href="http://localhost:6006/">http://localhost:6006/</a>
     wandb: Tracking run with wandb version 0.16.4
     wandb: W&B syncing is set to `offline` in this directory.
     wandb: Run `wandb online` or set WANDB_MODE=online to enable cloud syncing.
     Freezing layer 'model.22.dfl.conv.weight'
     AMP: running Automatic Mixed Precision (AMP) checks with YOLOv8n...
     Downloading <a href="https://github.com/ultralytics/assets/releases/download/v8.1.0/yolov8n.pt">https://github.com/ultralytics/assets/releases/download/v8.1.0/yolov8n.pt</a> to 'yolov8n.pt'...
     100%
                                                 6.23M/6.23M [00:00<00:00, 74.5MB/s]
     AMP: checks passed 🔽
     train: Scanning /kaggle/working/SiriusPeople-2/SiriusPeople-2/train/labels... 91
     train: New cache created: /kaggle/working/SiriusPeople-2/SiriusPeople-2/train/labels.cache
     albumentations: Blur(p=0.01, blur_limit=(3, 7)), MedianBlur(p=0.01, blur_limit=(3, 7)), ToGray(p=0.01), CLAHE(p=0.01, clip_limit=
     val: Scanning /kaggle/working/SiriusPeople-2/SiriusPeople-2/valid/labels... 15 i
     val: New cache created: /kaggle/working/SiriusPeople-2/SiriusPeople-2/valid/labels.cache
     Plotting labels to /kaggle/working/ultralytics/runs/detect/train3/labels.jpg...

optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum
     optimizer: AdamW(lr=0.001429, momentum=0.9) with parameter groups 57 weight(decay=0.0), 64 weight(decay=0.0005), 63 bias(decay=0.
     TensorBoard: model graph visualization added ✓
     Image sizes 640 train, 640 val
     Using 2 dataloader workers
     Logging results to /kaggle/working/ultralytics/runs/detect/train3
     Starting training for 250 epochs...
```

```
!yolo task=detect \
mode=val \
model=/kaggle/working/ultralytics/runs/detect/train3/weights/best.pt \
data={dataset.location}/data.yaml
     Ultralytics YOLOv8.1.37 🚀 Python-3.10.13 torch-2.1.2 CUDA:0 (Tesla T4, 15102MiB)
    Model summary (fused): 168 layers, 11126745 parameters, 0 gradients, 28.4 GFLOPs
     val: Scanning /kaggle/working/SiriusPeople-2/SiriusPeople-2/valid/labels.cache..
                                                  Box(P
0.933
0.948
                             Images Instances
                     Class
                                                               0.941
                      all
                               15 282
                                                                           0.951
                                                                                     0.719
           people_in_order
                                  15
                                            82
                                                     0.948
                                                                0.963
                                                                           0.982
                                                                                     0.774
                                                  0.922
                                                                        0.5<sub>4</sub>
0.947
                               15 113
15 87
       people_not_in_order
                                                                0.929
                                                                                      0.704
                     staff
                                                     0.93
                                                                0.931
                                                                                     0.678
     Speed: 0.2ms preprocess, 12.2ms inference, 0.0ms loss, 39.8ms postprocess per image
     Results saved to /kaggle/working/ultralytics/runs/detect/val
```

from IPython.display import FileLink
FileLink(r'file.zip')

P Learn more at https://docs.ultralytics.com/modes/val

file.zip