

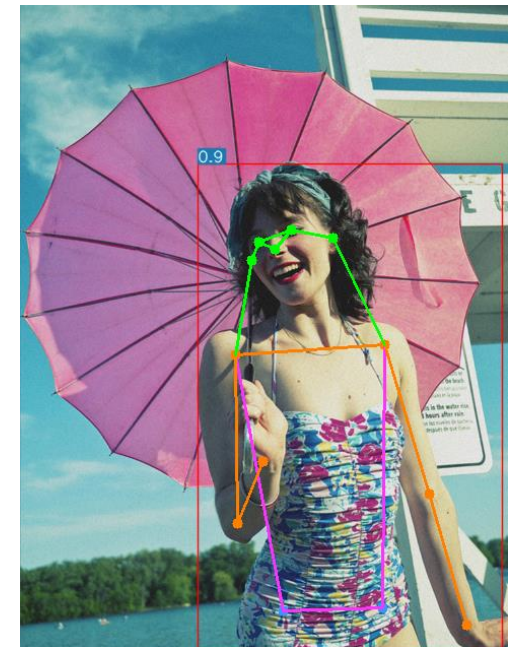
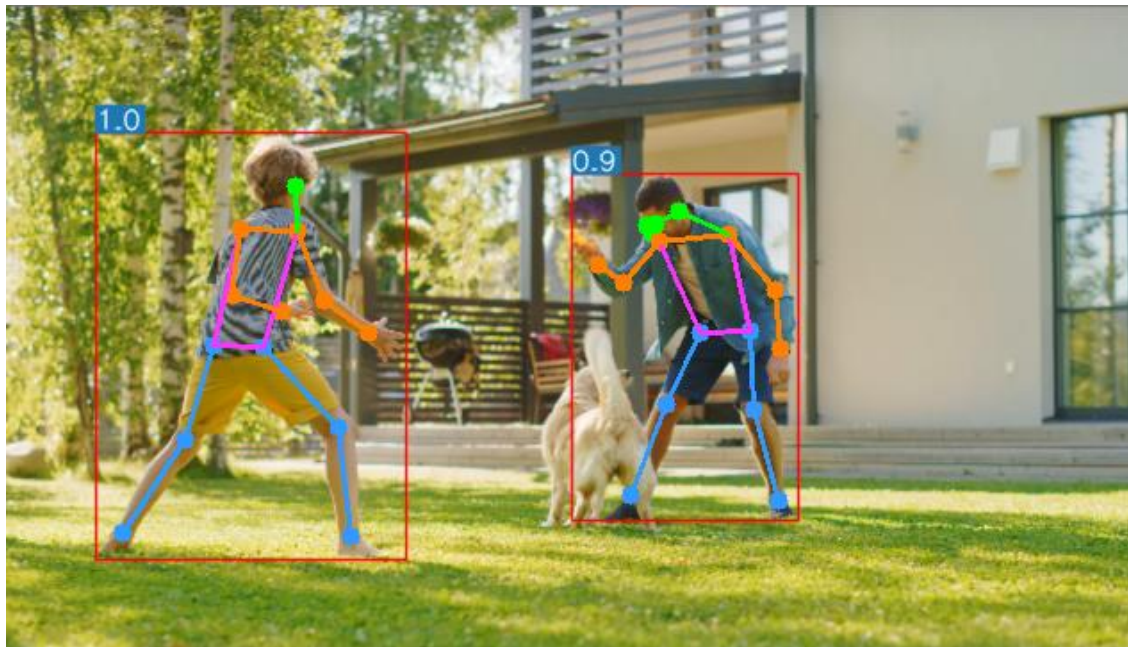
# YOLOv7HumanPose

The latest work of Taiwan's pride, the branch of the most powerful object detection algorithm YOLOv7 - HumanPose, can detect human body position, key points (eyes, ears, nose, shoulders, elbows, wrists, hips, knees, ankles), and achieve fast Human pose detection. After integrating YOLOv7HumanPose into the APP, it is more convenient for everyone to use quickly.

Version 20230223

# Applications

- YOLO Pose can be applied to medical image analysis, biological image analysis, advanced driver assistance systems, autonomous vehicle analysis, factory security systems, rehabilitation systems, etc.



# How to use

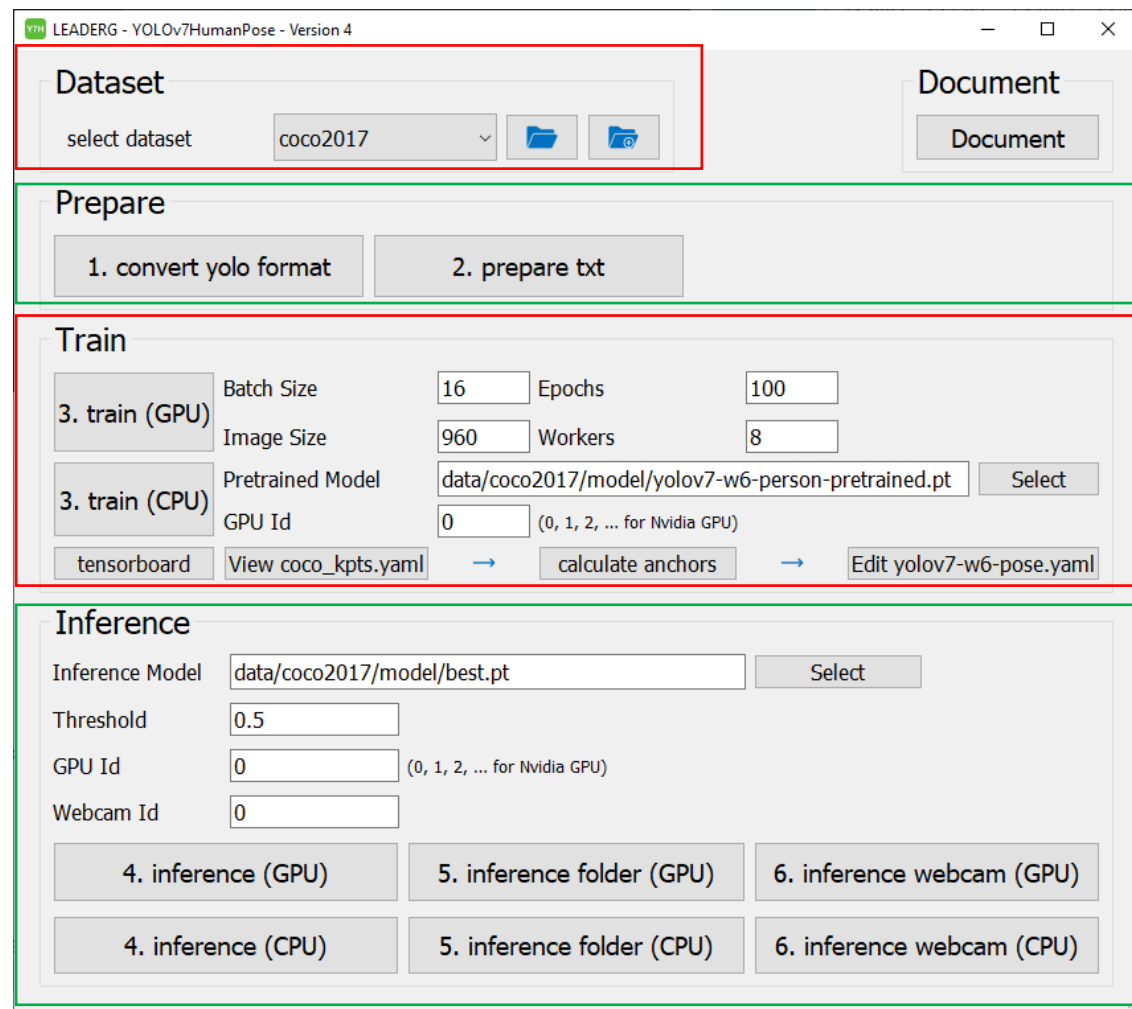
The main process is:

Select dataset -> preprocessing (prepare

images, prepare files for training, set

training parameters) -> training ->

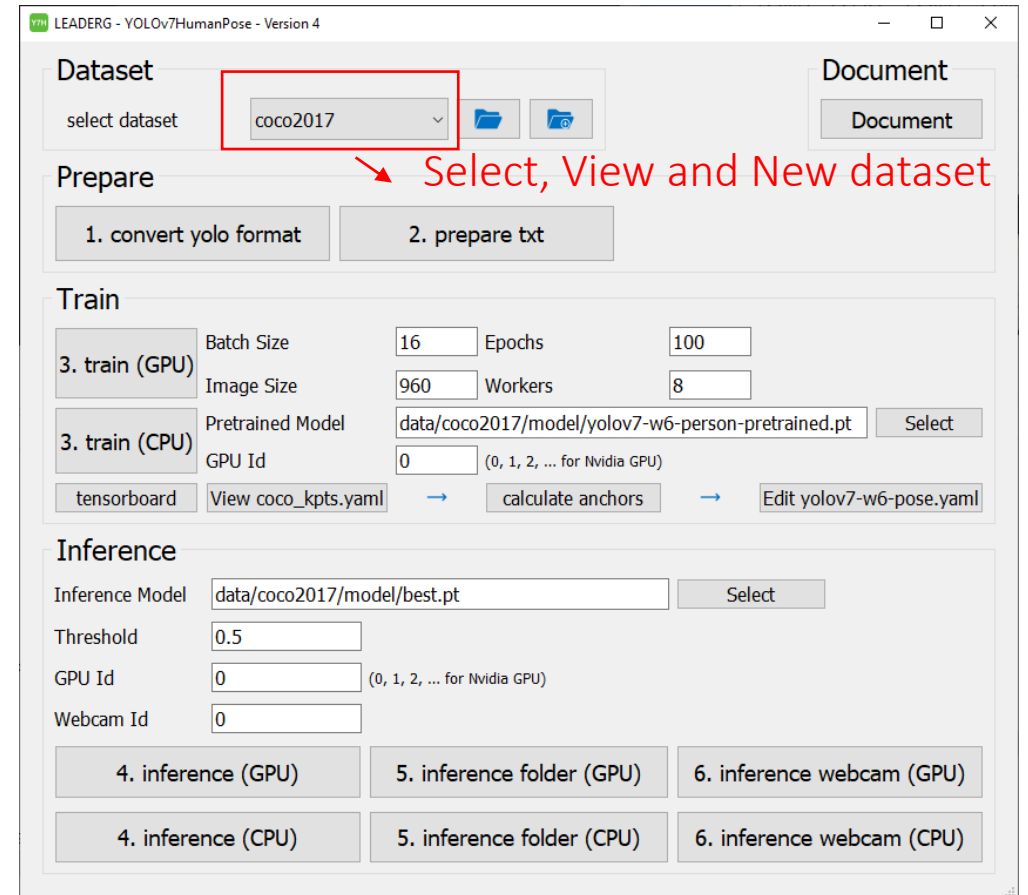
inference images



# Select dataset

Select the dataset to train or infer.

- The “Folder” icon button next to the pull-down menu can open the data folder location, which is convenient for users to confirm and modify.
- If you want to create a new dataset by yourself, please press the "New" button, enter the dataset name in the pop-up window (only English and numbers can be used as the dataset name), and press "OK" to complete the creation, that is The name you just entered can be found in the pull-down menu.



# Prepare images

After pressing the “folder” icon button, click the name of the dataset to be used, and put the images you want to train and infer in the images folder of the train, val, and test folders.

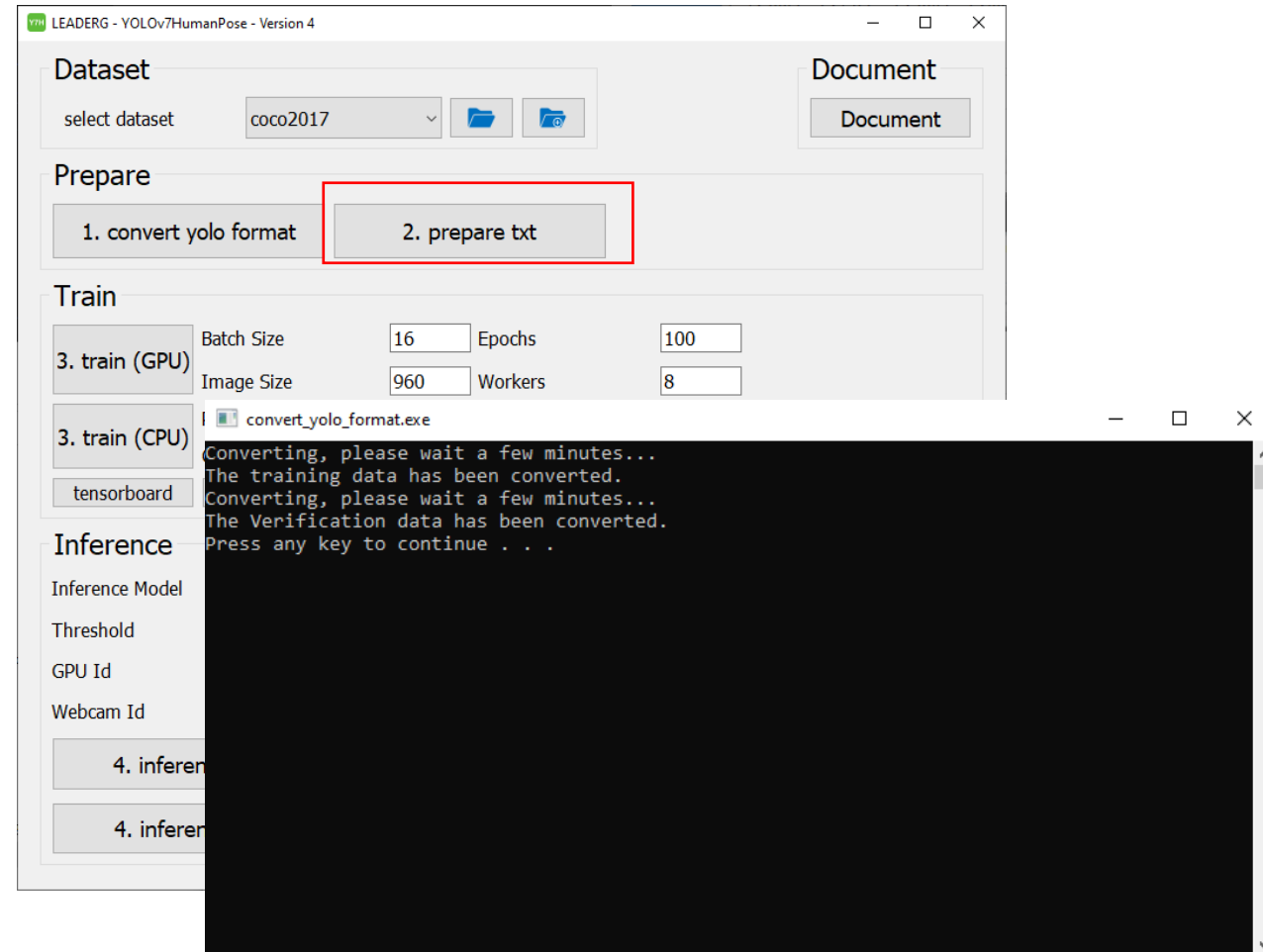
The image files are all human images. The APP example uses coco2017 images, and only retains the human image files.

If you need to annotate images, please find an annotation software that supports the coco keypoints format. You can also refer to the Annotation URL of [References](#).

# 1.convert yolo format

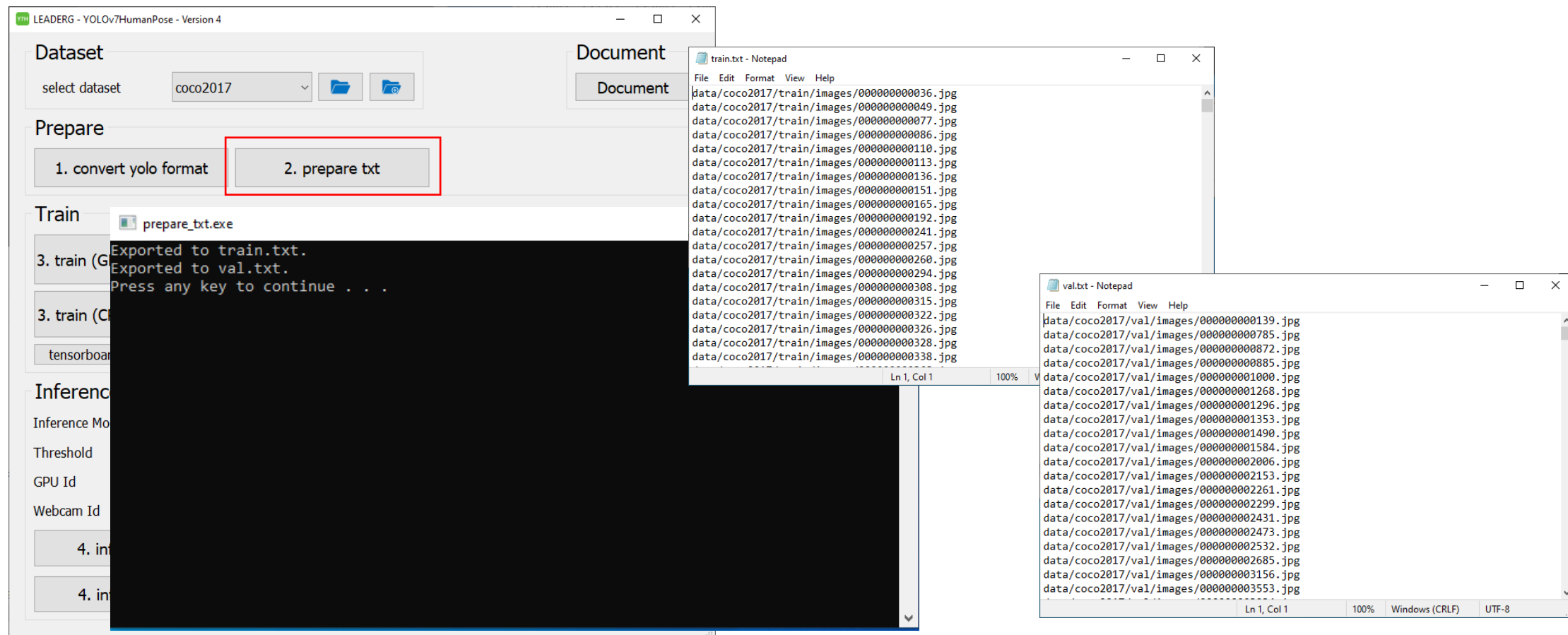
Convert from coco annotation file with keypoints format to yolo format.

It takes some conversion time to convert a large number of images



## 2.prepare txt

Generate training image path files “train.txt” and “val.txt”.



The screenshot displays the LEADERG - YOLOv7HumanPose - Version 4 application interface. The 'Dataset' section is set to 'coco2017'. In the 'Prepare' section, the '2. prepare txt' button is highlighted with a red box. The 'Train' section shows a terminal window with the command 'prepare\_txt.exe' and the output: 'Exported to train.txt. Exported to val.txt. Press any key to continue . . .'. Two Notepad windows are open, showing the contents of 'train.txt' and 'val.txt'. The 'train.txt' window contains a list of image paths for training, and the 'val.txt' window contains a list of image paths for validation.

```
data/coco2017/train/images/00000000036.jpg
data/coco2017/train/images/00000000049.jpg
data/coco2017/train/images/00000000077.jpg
data/coco2017/train/images/00000000086.jpg
data/coco2017/train/images/00000000110.jpg
data/coco2017/train/images/00000000113.jpg
data/coco2017/train/images/00000000136.jpg
data/coco2017/train/images/00000000151.jpg
data/coco2017/train/images/00000000165.jpg
data/coco2017/train/images/00000000192.jpg
data/coco2017/train/images/00000000241.jpg
data/coco2017/train/images/00000000257.jpg
data/coco2017/train/images/00000000260.jpg
data/coco2017/train/images/00000000294.jpg
data/coco2017/train/images/00000000308.jpg
data/coco2017/train/images/00000000315.jpg
data/coco2017/train/images/00000000322.jpg
data/coco2017/train/images/00000000326.jpg
data/coco2017/train/images/00000000328.jpg
data/coco2017/train/images/00000000338.jpg
```

```
data/coco2017/val/images/00000000139.jpg
data/coco2017/val/images/00000000785.jpg
data/coco2017/val/images/00000000872.jpg
data/coco2017/val/images/00000000885.jpg
data/coco2017/val/images/00000001000.jpg
data/coco2017/val/images/00000001268.jpg
data/coco2017/val/images/00000001296.jpg
data/coco2017/val/images/00000001353.jpg
data/coco2017/val/images/00000001490.jpg
data/coco2017/val/images/00000001584.jpg
data/coco2017/val/images/00000002006.jpg
data/coco2017/val/images/00000002153.jpg
data/coco2017/val/images/00000002261.jpg
data/coco2017/val/images/00000002299.jpg
data/coco2017/val/images/00000002431.jpg
data/coco2017/val/images/00000002473.jpg
data/coco2017/val/images/00000002532.jpg
data/coco2017/val/images/00000002685.jpg
data/coco2017/val/images/00000003156.jpg
data/coco2017/val/images/00000003553.jpg
```



# 3. train (GPU)

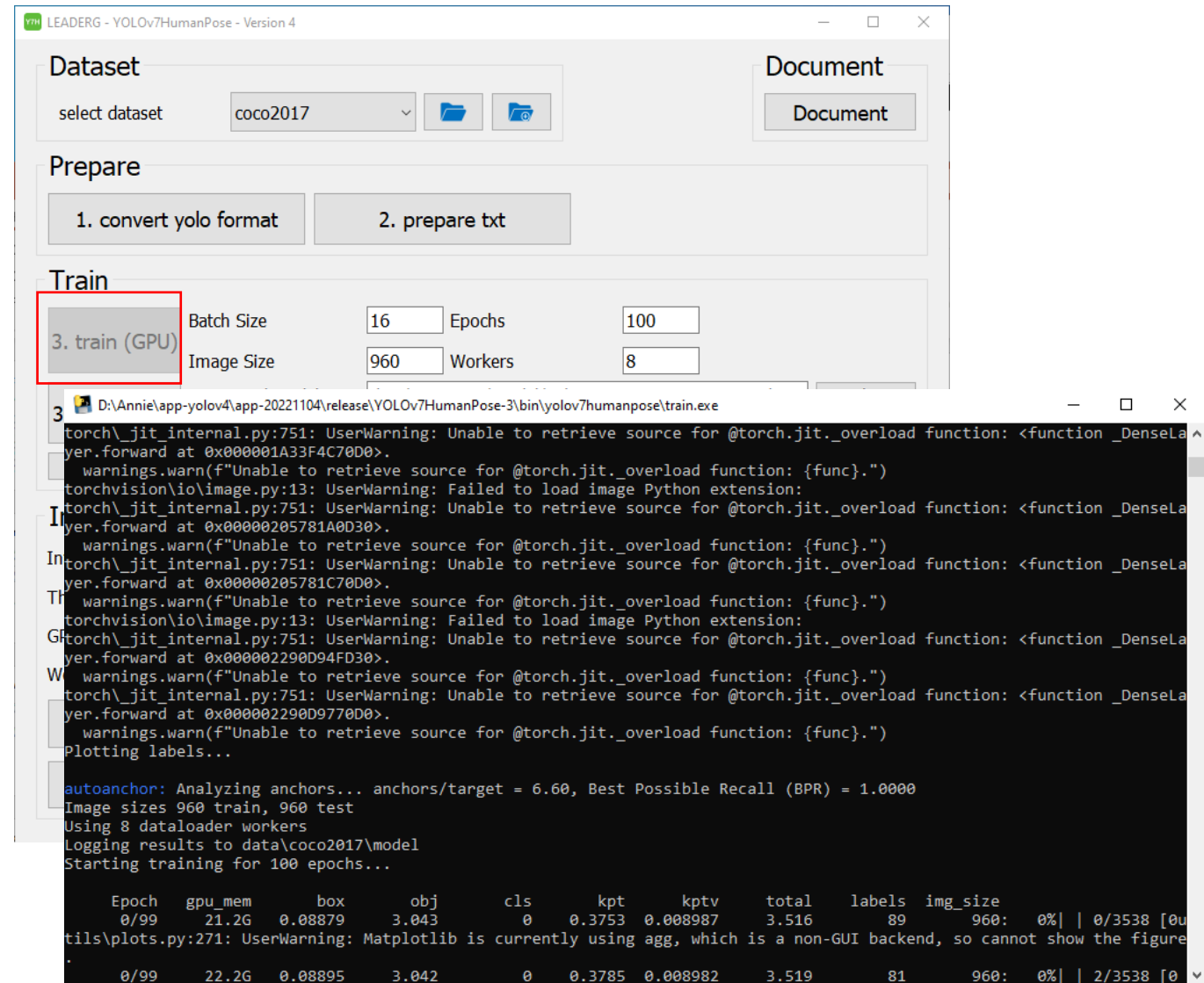
# 3. train (CPU)

Start training.

Note:

Tensorboard button to view training information, such as loss or mAP.

At the beginning of training, a cache file(train.cache and val.cache) of training images will be generated, so some waiting time is required.



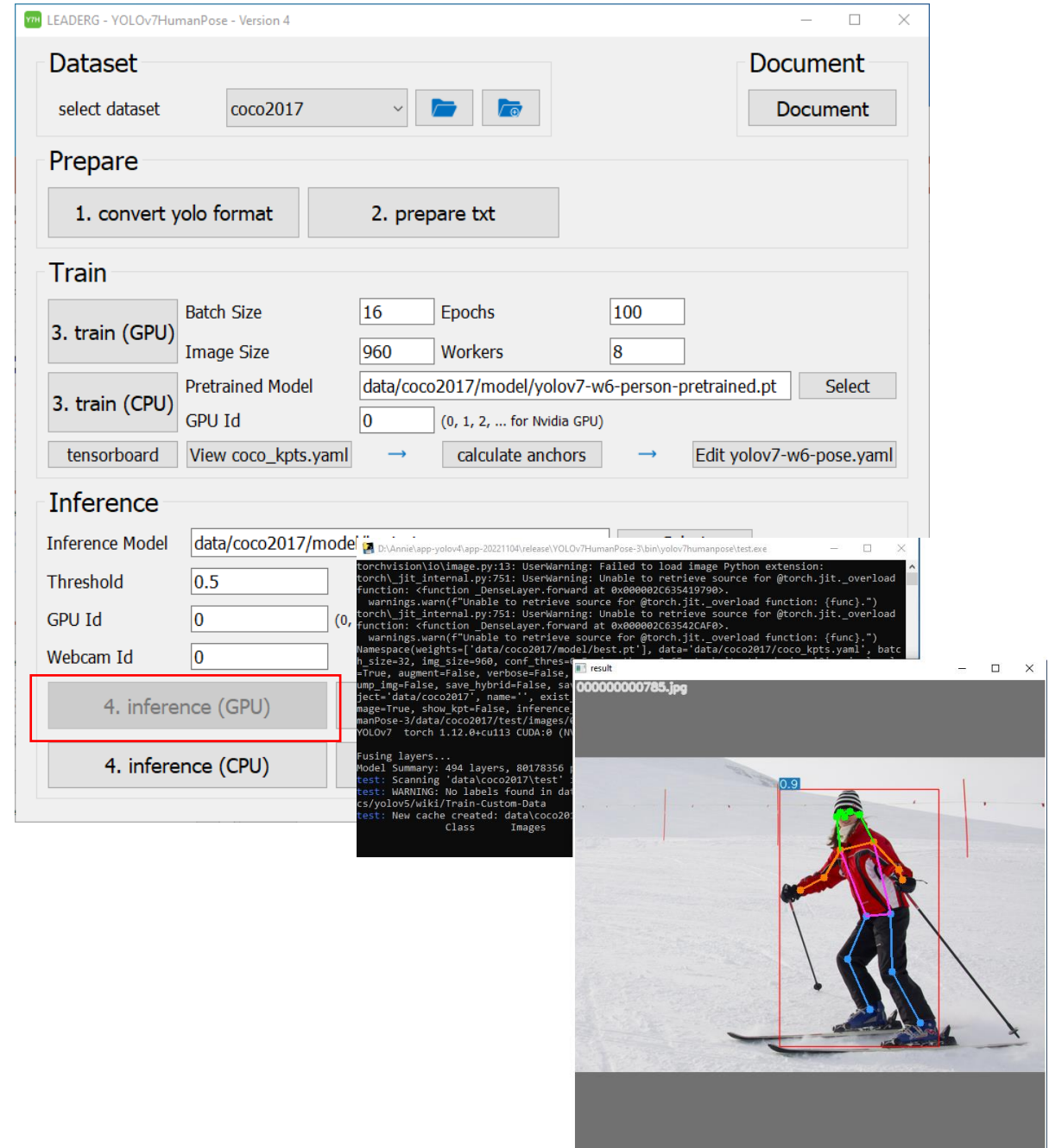


# 4. inference (GPU)

# 4. inference (GPU)

Infer a single image.

Choose the Inference Model  
yourself.



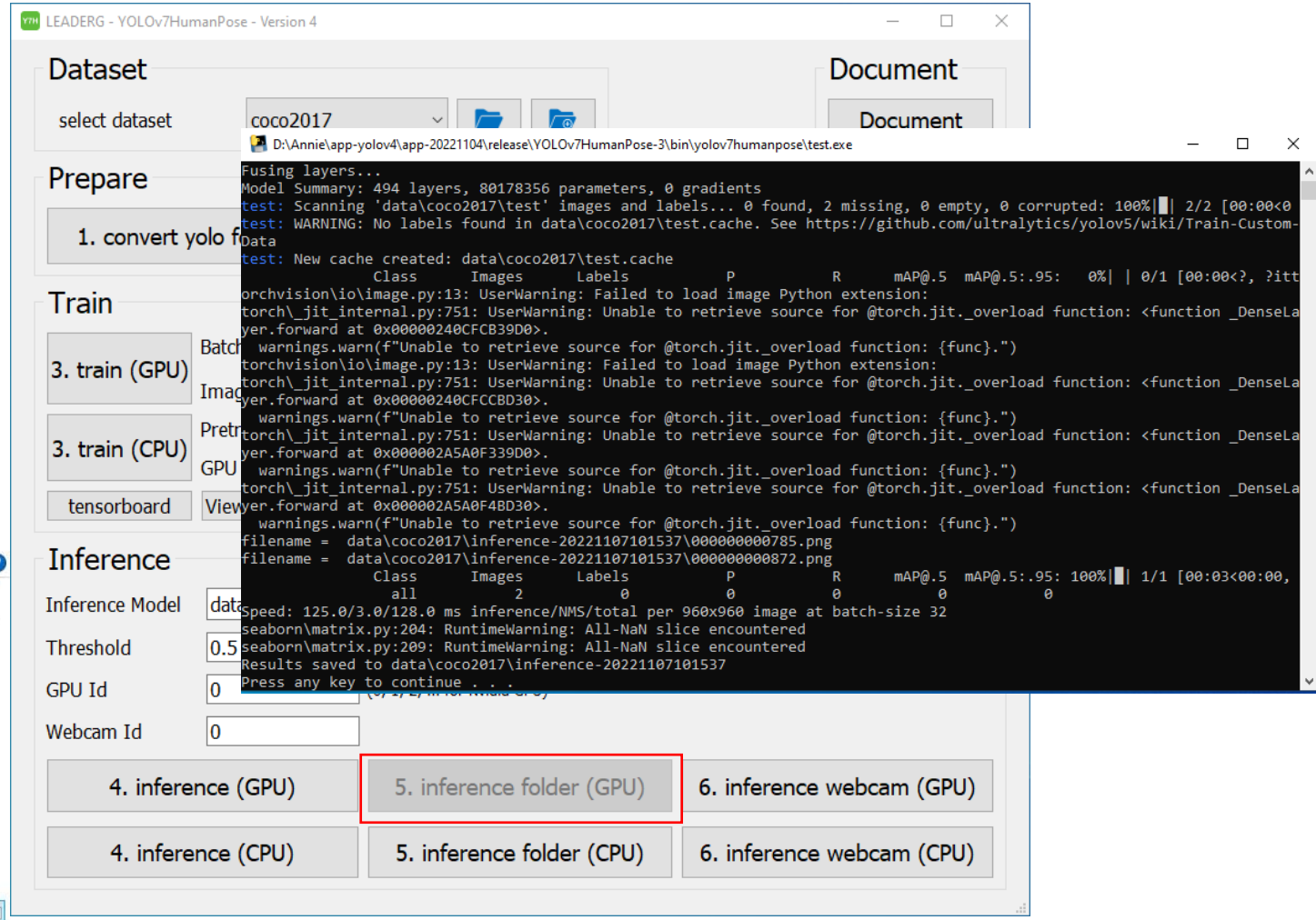
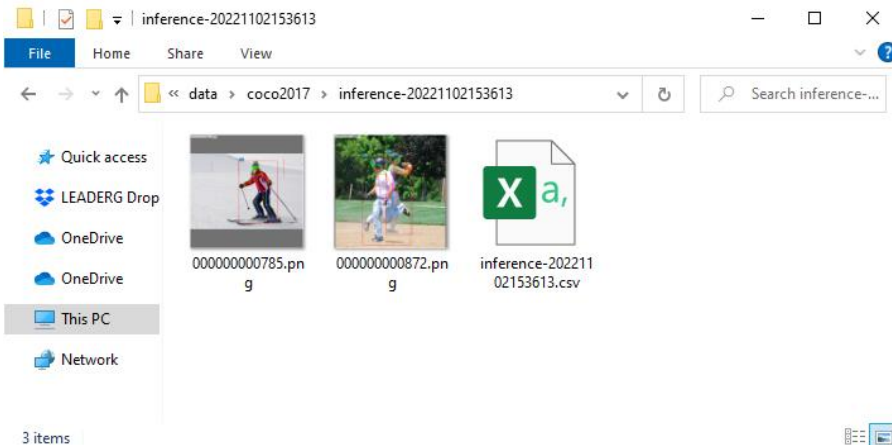
# 5. inference folder (GPU)

# 5. inference folder (CPU)

Infer all images in the folder.

Choose the Inference Model.

Coordinate information and image results are stored in the "inference-XXX" folder.



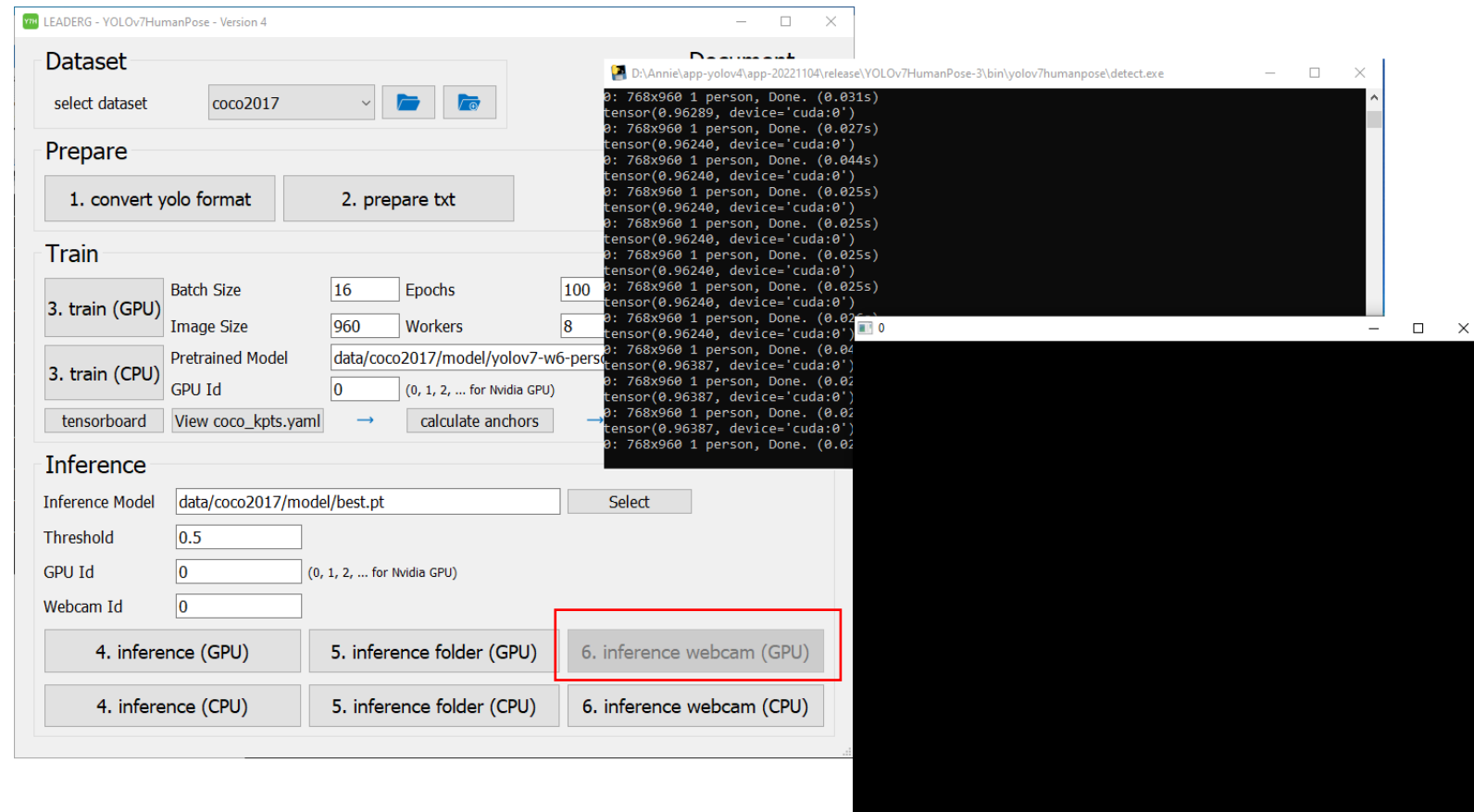
# 6. inference webcam (GPU)

# 6. inference webcam (CPU)

Infer the image of the webcam.

The Webcam Id parameter can set the specified webcam.

Choose the Inference Model yourself.



# Reference

- Please refer to the readme.txt in the APP folder.
- LEADERG AppForAI: <https://www.leaderg.com/appforai-windows>
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