**YOLO**

|  |  |  |
| --- | --- | --- |
|  | **Instruction** | **Illustration/Information** |
| 1 | Go to universe.roboflow.com  Find your suitable dataset. For this KB, we will be working with the following dataset: [DATASET](https://universe.roboflow.com/roboflow-58fyf/rock-paper-scissors-sxsw)  Press on Download this Dataset |  |
| 2 | An “Export” popup will be shown. Choose “YOLOv8” for Format and choose “download zip to computer” and press “Continue”  Transfer downloaded zip file to your project folder and extract it |  |
| 3 | Install “ultralytics” library |  |
| 4 | Check your GPU for Cuda support. If that is not the case, just install “pytorch” and go to section 6. To check Cuda version on your system, type “nvidia-smi” in cmd | A black screen with white text  Description automatically generated |
| 5 | Go to this [link](https://pytorch.org/get-started/locally/) and based on your Cuda version, choose the appropriate options. Then copy the  command. | A screenshot of a computer  Description automatically generated |
| 6 | The “data.yaml” file is downloaded with your Roboflow dataset. Open it in PyCharm and replace the train, val and test paths with absolute paths. | A screenshot of a computer  Description automatically generated |
| 7 | Run the following command in Terminal:  yolo task=detect mode=train epochs=2 data=data.yaml model=yolov8m.pt imgsz=640  **Note:**  The number of epochs can be increased to improve model  data.yaml should be the relative path of the file  imgsz should be the size of the images that are being used to train | A screen shot of a computer  Description automatically generated |
| 8 | After the training is finished, check the output for location of trained weights the “best.pt” file contains that weights that yielded the best results | A computer screen shot of a black screen  Description automatically generated |
| 9 | Find a sample image for testing, rename it to “test\_rps.jpg”, and run the following command for detection task in Terminal (check the output for location of detected picture):  yolo task=detect mode=predict model=best.pt source="test\_rps.jpg"  both model and source should be paths to the respective files | A close-up of a hand  Description automatically generated |
| 10 | What can be reasons for low confidence score and not detecting scissors? |  |