Running YOLOv7 on the host

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For this build YOLOv7 base model is downloaded and made to run on a Windows host, although to run on any other OS is also similar. This version has been run on a Windows 11 Dell Laptop in PyCharm for testing.

1. Git clone the given repository into a desired location: <https://github.com/WongKinYiu/yolov7.git> using the given commands.
   1. cd <desired-folder>
   2. git clone <https://github.com/WongKinYiu/yolov7.git>
2. Decide upon a YOLOv7 version from the repo page. ([GitHub - WongKinYiu/yolov7: Implementation of paper - YOLOv7: Trainable bag-of-freebies sets new state-of-the-art for real-time object detectors](https://github.com/WongKinYiu/yolov7#performance))

A screenshot of a computer screen

Description automatically generated

Click on the model and download it into the cloned folder. (In the same location as the detect.py file and others). For the test, the first YOLOv7 model was used. (one with avg time of 2.8ms)

1. In the cloned folder, from PyCharm set up a virtual environment in the same folder as the previous download.
   1. In a PyCharm terminal in the location: Model-YOLOv7 run the following command to set up a virtual environment.
   2. python -m venv YOLOv7
   3. To activate the environment:
   4. .\YOLOv7\Scripts\activate
   5. In the repo root directory in the virtual environment have to download the dependencies, to do so run:
   6. pip install -r requirements.txt
2. Now to run object detection on a file of choosing. Say file test.jpg is downloaded in the repo root.
   1. From the virtual environment, run the command:
   2. python detect.py --weights yolov7.pt --conf 0.4 --img-size 640 --source test.jpg
   3. Here the img-size has to be the same test size as of the download of the model as seen in step 2.
   4. The run is saved under: \Model-YOLOv7\runs\detect\ in folder named exp or exp1/2/3…

For training the model on a custom data set a few setup steps vary and can be followed by this tutorial:

[Official YOLO v7 Custom Object Detection Tutorial | Windows & Linux - YouTube](https://www.youtube.com/watch?v=-QWxJ0j9EY8)