

CLI use

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1. Download source code

```
git clone https://github.com/ultraalytics/ultraalytics.git
```

2. Enable optimal performance of the motherboard

2.1. Enable MAX Power Mode

Enabling MAX Power Mode on Jetson will ensure that all CPU and GPU cores are turned on:

```
sudo nvpmodel -m 0
```

2.2. Enable Jetson Clocks

Enabling Jetson Clocks will ensure that all CPU and GPU cores run at maximum frequency:

```
sudo jetson_clocks
```

3. Use CLI prediction

CLI (Command-Line Interface) is a way for users to interact with computers or software programs by typing text commands to run programs or perform tasks instead of clicking icons or buttons through a graphical user interface (GUI).

3.1. CLI usage syntax

```
yolo TASK MODE ARGS
```

where TASK (optional) is one of [detect, segment, classify, pose, obb]
MODE (required) is one of [train, val, predict, export, track, benchmark]
ARGS (optional) are any number of custom 'arg=value' pairs like 'imgsz=320' that override defaults.

3.2. Image prediction

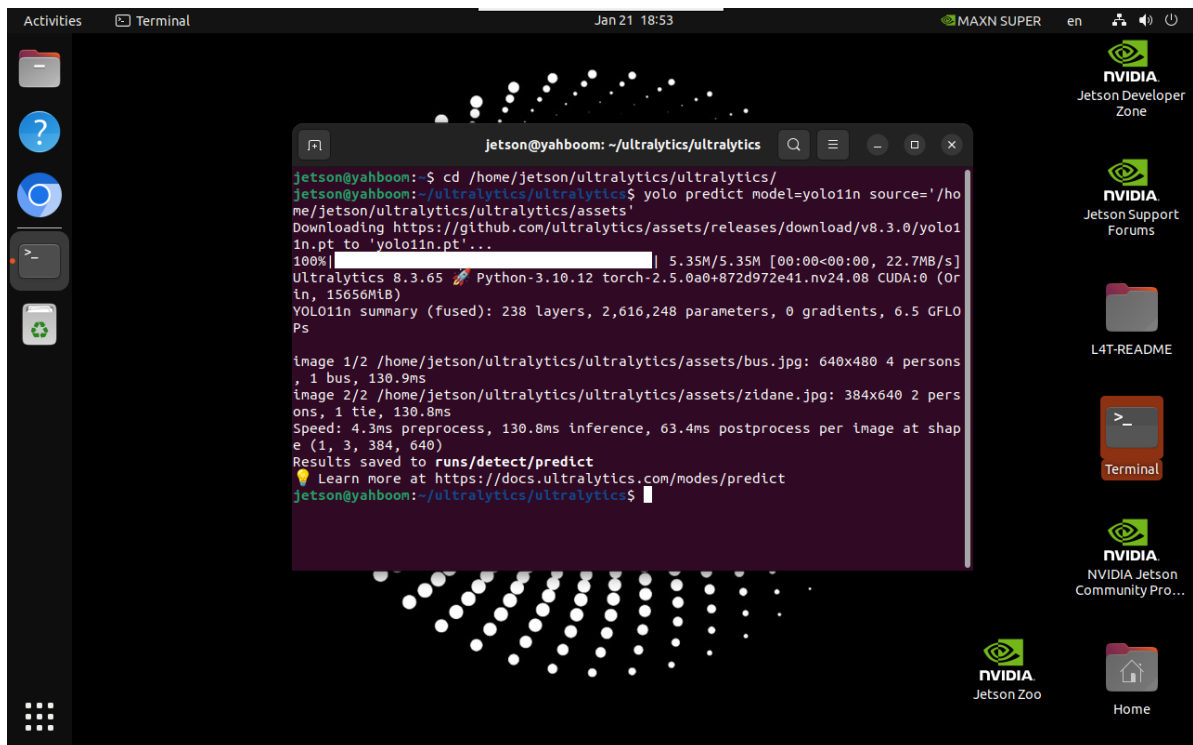
Use yolo11n.pt to predict the built-in images in the ultralytics project: If the system does not find the corresponding model file in the directory where the command is run, it will automatically download it (if it cannot be downloaded, you can copy the model into it yourself)

Enter the project folder:

```
cd /home/jetson/ultralytics/ultralytics/
```

Use yolo11n.pt to detect the images in the target folder and output the results:

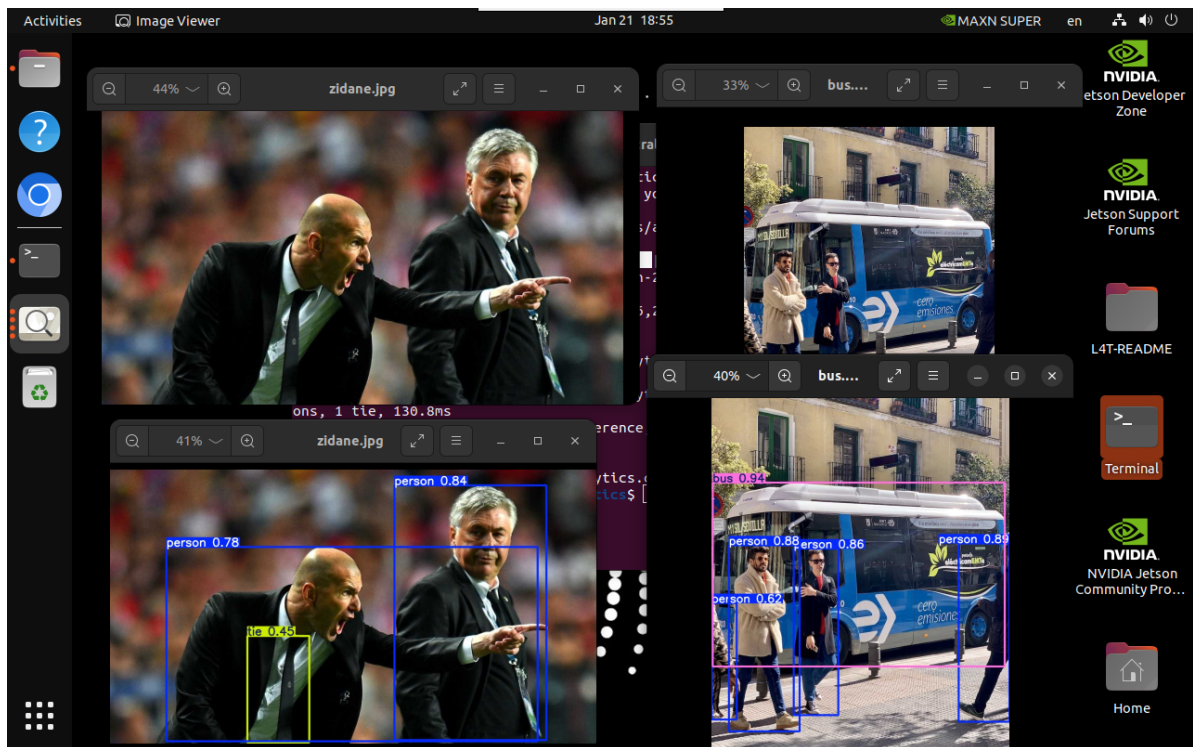
```
yolo predict model=yolo11n source='/home/jetson/ultralytics/ultralytics/assets'
```



Effect preview

Video location of yolo recognition output: /home/jetson/ultralytics/ultralytics/runs/detect;

Each time it runs, the predict in this folder automatically increases by 1



3.3, Video prediction

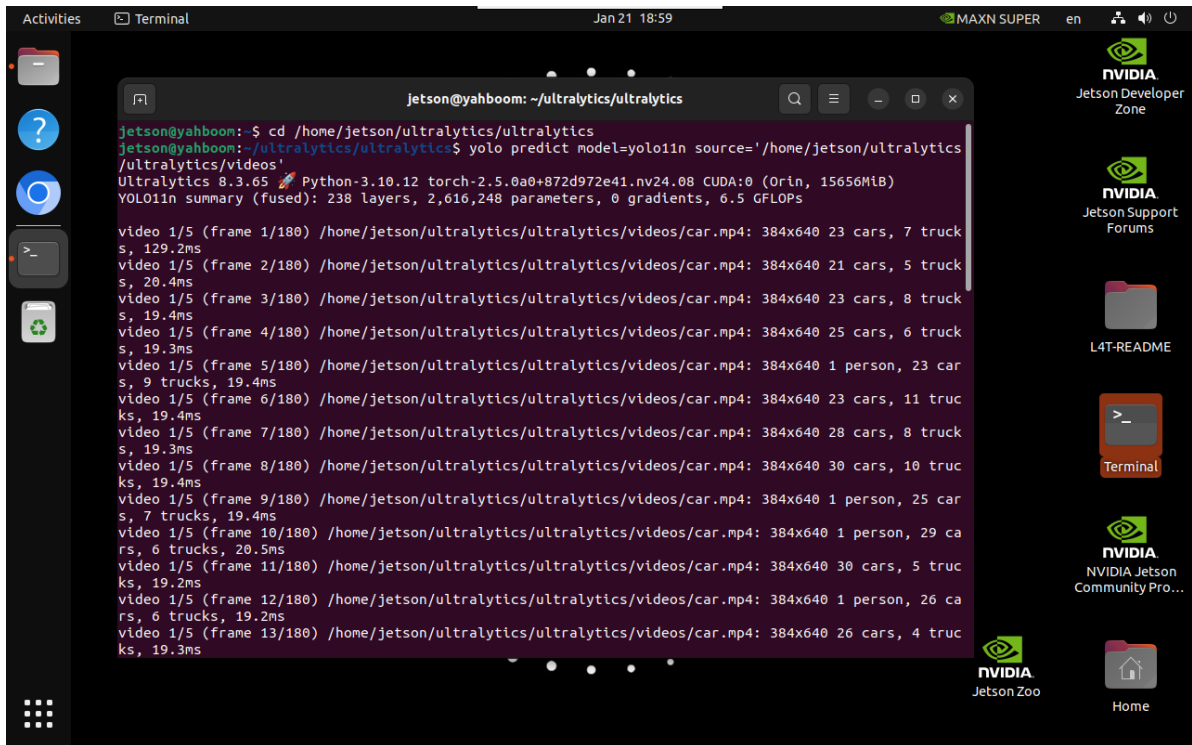
Use yolo11n.pt to predict videos under the ultralytics project (not ultralytics built-in videos): If the system does not find the corresponding model file in the directory where the command is run, it will automatically download it (if it cannot be downloaded, you can copy the model into it yourself)

Enter the project folder:

```
cd /home/jetson/ultralytics/ultralytics
```

Use yolo11n.pt to detect the video in the target folder and output the result:

```
yolo predict model=yolo11n source='/home/jetson/ultralytics/ultralytics/videos'
```



Effect preview

Video location of yolo recognition output: /home/jetson/ultralytics/ultralytics/runs/detect

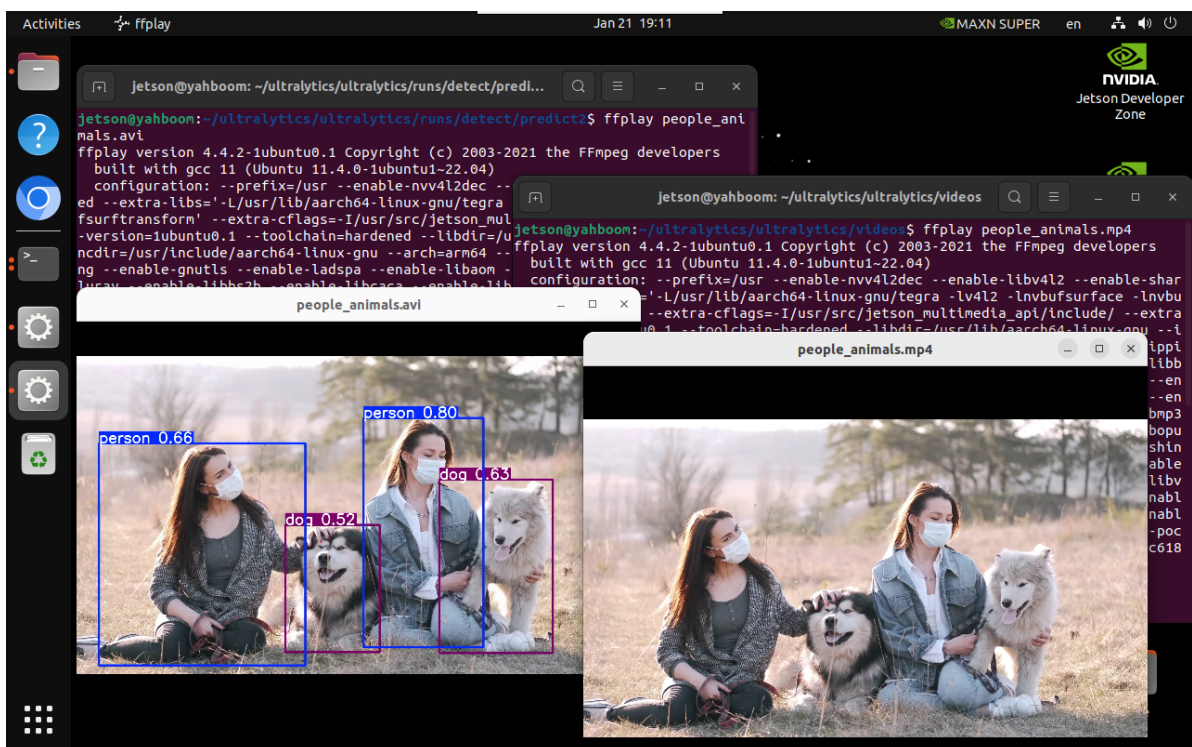
Each time it runs, the predict in this folder automatically increases by 1

You can use ffmpeg to watch the video. Use the following command to install it:

```
sudo apt update
sudo apt install ffmpeg -y
```

Play the video:

```
ffplay <video_name>.avi
```



3.4, Real-time prediction

Use yolo11n.pt to predict the USB camera screen: If the system does not find the corresponding model file in the directory where the command is run, it will automatically download it (if it cannot be downloaded, you can copy the model into it yourself)

Enter the project folder:

```
cd /home/jetson/ultralytics/ultralytics
```

Use yolo11n.pt to detect the camera screen and output the results: Currently, only USB cameras can directly use CLI to predict real-time images. CSI cameras do not have relevant information that can be used directly as input sources

```
yolo predict model=yolo11n.pt source=0 save=False show # Object detection
# Instance segmentation: yolo predict model=yolo11n-seg.pt source=0 save=False show
# Image classification: yolo predict model=yolo11n-cls.pt source=0 save=False show
# Pose estimation: yolo predict model=yolo11n-pose.pt source=0 save=False show
# Oriented object detection: yolo predict model=yolo11n-obb.pt source=0 save=False show
```

Click the terminal and press the "Ctrl + C" shortcut key to terminate the program!

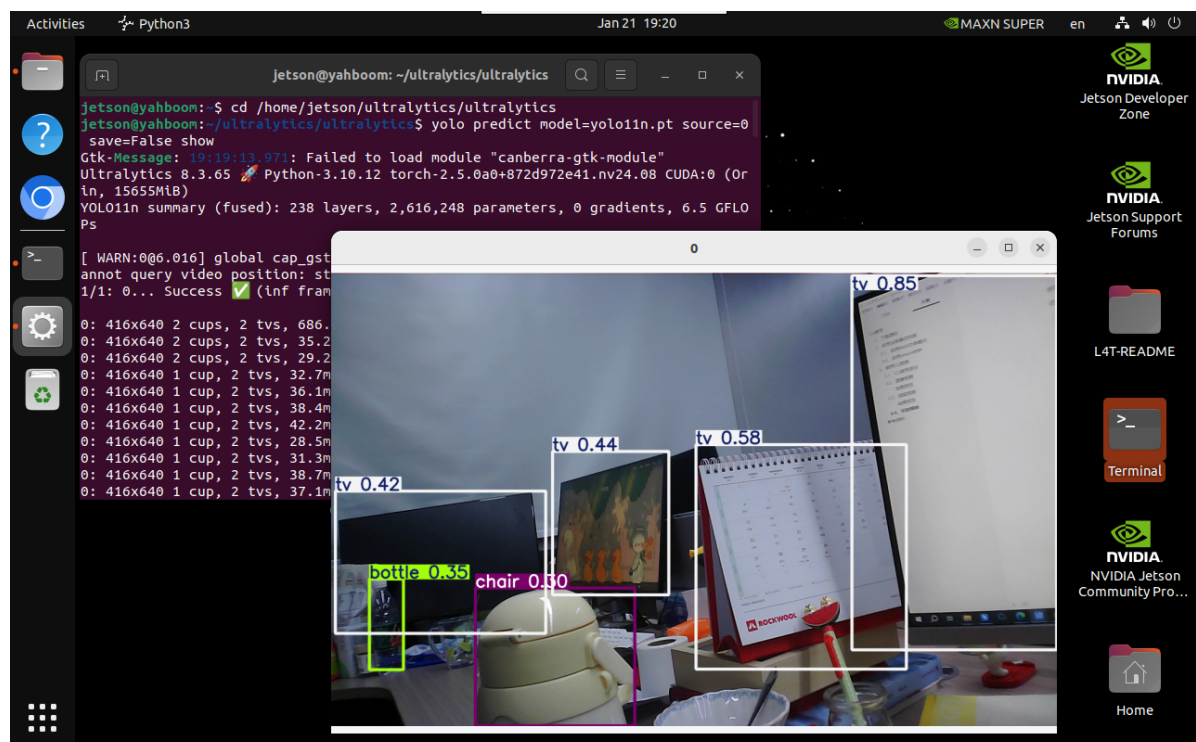
Parameter Description

model: Specify the YOLO model

source: Specify the recognition source: multiple cameras can switch numbers

save=False: Disable saving results

show: Real-time display



References

<https://github.com/ultralytics/ultralytics>

<https://docs.ultralytics.com/usage/cli/>