Object detection in video using yolov5

*from google.colab import drive*

Firstly, the code imports the drive module from the google.colab library, which is used to mount your Google Drive to the Colab environment. This is useful for accessing any files you may have stored in your Drive.

*! git clone https://github.com/ultralytics/yolov5*

The next command clones the YOLOv5 repository from GitHub using the git clone command. This will download the latest version of the YOLOv5 source code, which contains the necessary files for running the object detection algorithm.

*!pip install -r yolov5/requirements.txt*

After this, the code installs the required dependencies by running the pip install command, passing in the requirements file located in the yolov5 directory.

*!nvidia-smi*

Next, the nvidia-smi command is used to display information about the GPU that Colab has allocated for running the YOLOv5 algorithm. This is useful for verifying that you have been allocated a GPU with enough memory to run the algorithm.

*%cd yolov5*

Then, the code changes the current directory to the yolov5 directory using the %cd command.

*from google.colab import files*

*uploaded = files.upload()*

After this, the files module from the google.colab library is imported, which is used to upload the video file to Colab. The uploaded variable is then used to store the uploaded file.

*!python detect.py --source Opencv\_vehicle\_detection.mp4*

Finally, the object detection algorithm is run by calling the detect.py script with the --source parameter set to the path of the uploaded video file. This will output a new video file with the detected vehicles highlighted.

Overall, this code is a useful example of how to use YOLOv5 for object detection in a video.