**# Step 1: Enabling GPU within your notebook**

**You need to enable GPU acceleration within your Colab notebook so that your YOLOv3 system will be able to process detections over 100 faster than CPU.**

**The following cells will clone darknet from AlexeyAB's famous repository, adjust the Makefile to enable OPENCV and GPU for darknet and then build darknet.**

**This method is the method I recommend as you can gather thousands of images and auto-generate their labels within minutes! Gathering a dataset from Google's Open Images Dataset and using OIDv4 toolkit to generate labels is easy and time efficient. The dataset contains labeled images for over 600 classes!**[**Explore the Dataset Here!**](https://storage.googleapis.com/openimages/web/index.html)

**So now that you have your dataset properly formatted to be used for training we need to move it into this cloud VM so that when it comes the time we can actually use it for training.**

**I recommend renaming the folder with your images and text files on your local machine to be called 'obj' and then creating a .zip folder of the 'obj' folder. Then I recommend uploading the zip to your Google Drive. So you should now have obj.zip someplace in your Google drive.**

**This will greatly reduce the time it takes to transfer our dataset into our cloud VM.**

**Now we can copy in the zip and unzip it on your cloud VM.**

**his step involves properly configuring your custom .cfg file, obj.data, obj.names and train.txt file.**

**I have a detailed video on how to properly configure all four of these files to train a custom yolov3 detector. I will spare the time and ask you to watch the video in order to properly learn how to prepare the files.**

**You can access the video with this link!**

**obj.names and obj.data**

**The last configuration file needed before we can begin to train our custom detector is the train.txt file which hold the relative paths to all our training images.**

**Luckily I have created a script that I showed in a past video that generates train.txt for us.**

**The script can be accessed from this [Github Repo](https://github.com/theAIGuysCode/YoloGenerateTrainingFile/blob/master/generate_train.py/" \t "_blank)**

**Just download the file to your local machine or Google drive so we can upload it to your cloud VM.**

**This step downloads the weights for the convolutional layers of the YOLOv3 network. By using these weights it helps your custom object detector to be way more accurate and not have to train as long. You don't have to use these weights but trust me it will help your modle converge and be accurate way faster. USE IT!**

**You can observe a chart of how your model did throughout the training process by running the below command. It shows a chart of your average loss vs. iterations. For your model to be 'accurate' you would aim for a loss under 2.**