## Deep Learning EC2 Instance
Deep Learning Base AMI (Ubuntu) Version 19.1
g3s.xlarge

## Connection to Deep Learning EC2 Instance (mobaxterm)
ssh ubuntu@<ip address>

## Upgrade cuDNN (tensorflow 2.0 needs cudnn 7.6.3)
wget https://www.dropbox.com/s/29k5p6tho44acvz/cudnn-10.1-linux-x64-v7.6.3.30.tgz
sudo tar -xzvf cudnn-10.1-linux-x64-v7.6.3.30.tgz
sudo cp cuda/include/cudnn.h /usr/local/cuda/include
sudo cp cuda/lib64/libcudnn* /usr/local/cuda/lib64
sudo chmod a+r /usr/local/cuda/include/cudnn.h /usr/local/cuda/lib64/libcudnn*

## Installing Additional Deep Learning Software on EC2 Instance
sudo -H pip3 install tensorflow-gpu
sudo -H pip3 install keras
sudo -H pip3 install Theano
sudo -H pip3 install cython
sudo -H pip3 install torch
sudo -H pip3 install torchvision
sudo -H pip3 install opencv-python
sudo -H pip3 install lmdb
sudo -H pip3 install sympy
sudo -H pip3 install pydotplus
sudo apt-get install -y p7zip-full
sudo apt install unzip
sudo -H pip3 install gpustat
sudo apt install --reinstall python*-decorator

## Pycharm
Tools > Deployment > Configuration > enter ec2 instance ip address

## Check GPU
nvidia-smi
nvcc -V
cat /usr/local/cuda/include/cudnn.h | grep CUDNN_MAJOR -A 2

## Clone Repository and Change Permissions
git clone https://github.com/amir-jafari/Deep-Learning.git
sudo chmod 777 -R Deep-Learning/      this changes permission to allow read/write
sudo rm -rf Deep-Learning/      this deletes the library, if needed

## Remember
● Must close python console between run to deallocate memory.

- Error "decorator"
  - sudo apt install --reinstall python*-decorator
- Error "progbar"
  - Can't find images

**Download Zip File**

wget https://storage.googleapis.com/exam-deep-learning/train.zip

sudo apt-get install unzip

unzip train.zip