

Installing cuda, ubuntu 18.04

GOOD VERSION:

a. FIRST, install a driver for your GPU. Find DRIVER HERE. Dont yet install, just download.

<https://www.nvidia.com/download/index.aspx>

(

a2. install these:

```
sudo apt install pkg-config libglvnd-dev
```

b. To install, need to use terminal without display:

<https://askubuntu.com/questions/841876/how-to-disable-nouveau-kernel-driver>

maybe it is too late ,but hope can help for others. the follow tips worked for ubuntu 16.04 and elementary os 0.4.

1. remove all nvidia packages ,skip this if your system is fresh installed

```
sudo apt-get remove nvidia* && sudo apt autoremove
```

2. install some packages for build kernel:

```
sudo apt-get install dkms build-essential linux-headers-generic
```

3. now block and disable nouveau kernel driver:

```
sudo vim /etc/modprobe.d/blacklist.conf
```

Insert follow lines to the blacklist.conf:

```
blacklist nouveau
blacklist lbm-nouveau
options nouveau modeset=0
alias nouveau off
alias lbm-nouveau off
```

save and exit.

4. Disable the Kernel nouveau by typing the following commands(nouveau-kms.conf may not exist,it is ok):

```
echo options nouveau modeset=0 | sudo tee -a /etc/modprobe.d/nouveau-kms.conf
```

5. build the new kernel by:

```
sudo update-initramfs -u
```

6. reboot

7. ctrl + alt + f3

8. service lightdm stop

9. sudo init3

10. ctrl + alt + f3

11. sudo sh <path to nvidia.run file>

12. reboot then try nvidia-smi

1. NOTE: it is ok if it shows CUDA version different from what you want.

2. Install cuda

(<https://deeplabcut.github.io/DeepLabCut/docs/installation.html>)

SECOND, install CUDA (versions up to CUDA11 are supported, together with TF2.5):

<https://developer.nvidia.com/> (Note that cuDNN, <https://developer.nvidia.com/cudnn>, is supplied inside the anaconda environment files, so you don't need to install it again).

https://developer.nvidia.com/cuda-11.2.0-download-archive?target_os=Linux&target_arch=x86_64&target_distro=Ubuntu&target_version=1804&target_type=runfilelocal

2a. install <https://askubuntu.com/questions/998764/cuda-9-1-missing-recommended-library>

sudo apt-get install g++ freeglut3-dev build-essential libx11-dev \ libxmu-dev libxi-dev libglu1-mesa libglu1-mesa-dev

2b. Take steps above to turn off display (RED), then run the cuda installation.

DONE!

Confirm by running **nvidia-smi**

ADDITIONAL THINGS

If Nvidia stops working (only single monitor show, and nvidia-smi doesnt work), then probably is kernel update. Use these instructions:

1. (<https://www.howtogeek.com/740797/how-to-roll-back-the-kernel-in-linux/>)
 - a. Use older kernel
 - b. Delete newer kernel
2. Update loading order defaults of kernels:
 - a. <https://unix.stackexchange.com/questions/465201/how-do-i-roll-back-to-a-previous-ubuntu-kernel-running-ubuntu-16-04>

NOTE: if that doesnt work:

- once, I see only one kernel.
- 1. load to recovery mode
- 2. "resume ..."
- 3. then restarts and should be fine...