MSc Research Project

PGDCYB_Jan 2024- Aug 2024

Rory Mc Crystal

Student ID: x20163371

x20163371@student.ncirl.ie

Configuration Manual

1 x Tower

- Dell Power Edge T110 II
- Processor Intel Xeon E3-1230 V2 x 8
- Memory 8gb
- 64bit
- HD SSD 2TB
- OS: Ubuntu 24.04 LTS

Install:
Anaconda (www.anaconda.org)
Create the Anaconda Environment and then install libraries Via PIP:

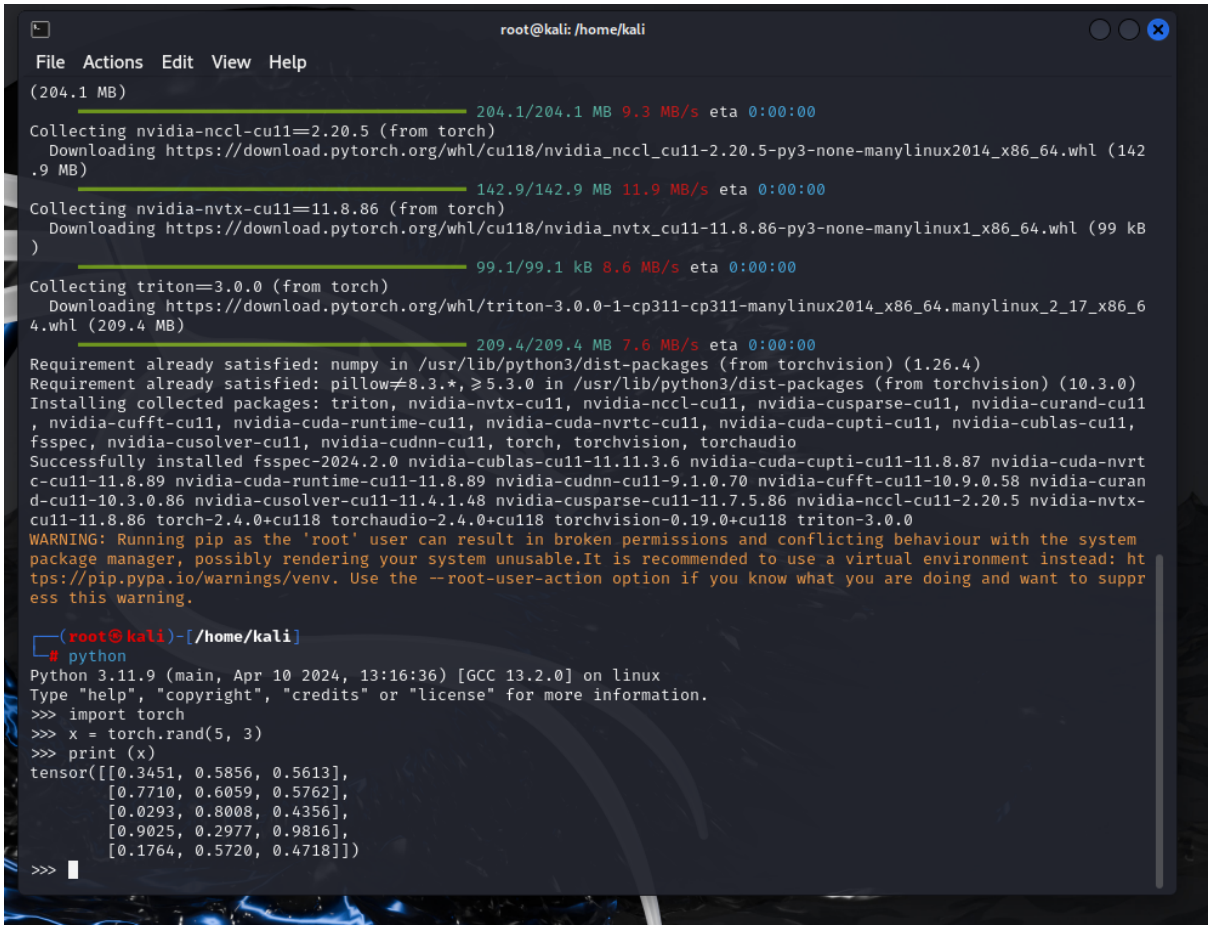
Pytorch:
www.pytorch.com

(There are numerous options here. I have used PIP with no Cuda).
(Verify the installation)
Python #Opens a python shell in the command line

```
import torch
x = torch.rand(5, 3)
print(x)
```

(Output should be something like)

```
tensor([[0.3380, 0.3845, 0.3217],
        [0.8337, 0.9050, 0.2650],
        [0.2979, 0.7141, 0.9069],
        [0.1449, 0.1132, 0.1375],
        [0.4675, 0.3947, 0.1426]])
```




```
pip install seaborn
python -m pip install -U pip
python -m pip install -U matplotlib
pip install numpy
python -m venv sklearn-env
sklearn-env\Scripts\activate  # activate
pip install -U scikit-learn
pip install python-math
```

Sklearn:
https://scikit-learn.org

Following Linux Command Line code is used:
Sudo su
Sudo apt-get update
Sudo apt-get upgrade
(Do you want to continue yes)

Anaconda
apt-get install libgl1-mesa-glx libegl1-mesa libxrandr2 libxrandr2 libxss1 libxcursor1 libxcomposite1 libasound2 libxi6 libxtst6

curl -O https://repo.anaconda.com/archive/Anaconda3-<INSTALLER_VERSION>-Linux-x86_64.sh

bash ~/Downloads/Anaconda3-<INSTALLER_VERSION>-Linux-x86_64.sh

(Anaconda recommends you accept the default install location. Do not choose the path as /usr for the Anaconda/Miniconda installation.)

source ~/.bashrc

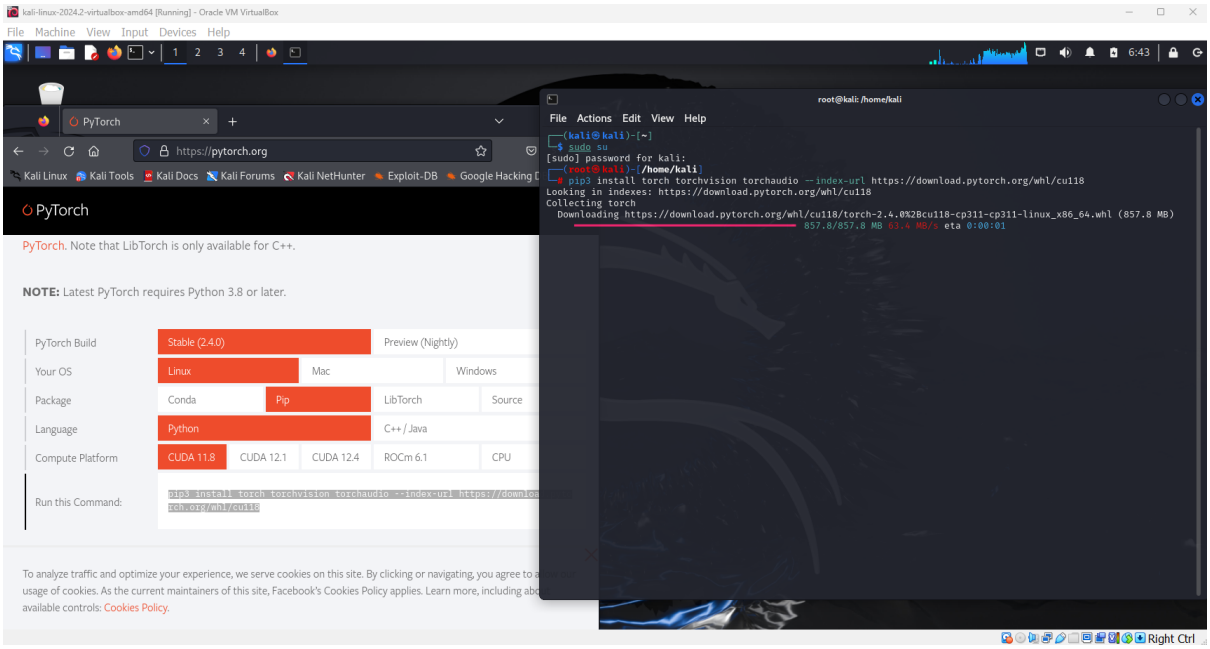
1 x Laptop

OS Windows 11:

Virtual Box:
https://www.virtualbox.org/wiki/Downloads

Kali (VirtualBox instance):
https://www.kali.org/get-kali/#kali-virtual-machines

Install Pytorch:
Go to https://pytroch.org and use the install command:



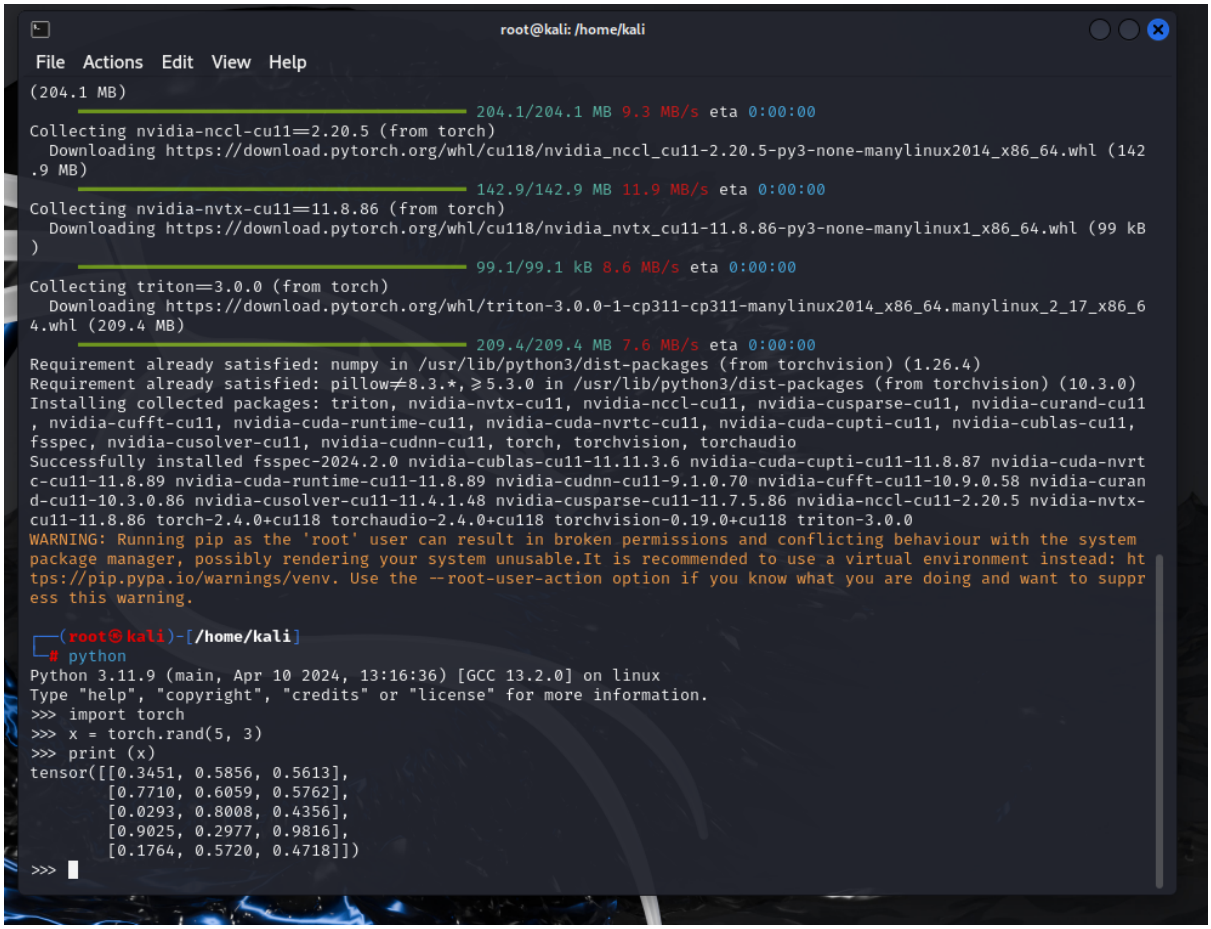
(There are numerous options here. I have used PIP with no Cuda).

(Verify the installation)
Python #Opens a python shell in the command line

```
import torch
x = torch.rand(5, 3)
print(x)
```

(Output should be something like)

```
tensor([[0.3380, 0.3845, 0.3217],
        [0.8337, 0.9050, 0.2650],
        [0.2979, 0.7141, 0.9069],
        [0.1449, 0.1132, 0.1375],
        [0.4675, 0.3947, 0.1426]])
```




```
pip install seaborn
python -m pip install -U pip
python -m pip install -U matplotlib
pip install numpy
python -m venv sklearn-env
sklearn-env\Scripts\activate  # activate
pip install -U scikit-learn
pip install python-math
```