Assignment 1

Document the installation of a python environment that should have pytorch working on cuda. Show all steps and errors along with the appropriate fix.

Iacob Victor

Enironment

Date of installation: 26.11.2023

OS Version: Windows 10 Pro; Version 22H2

CPU: Intel(R) Core(TM) i5-9300H CPU @ 2.40GHz   2.40 GHz

GPU: NVIDIA GeForce RTX 2060;

Python version: 3.11.6

Prerequisites

GPU Driver Version: 546.17

CUDA: 12.1

CuDNN: 8700

Python Installation

After I had successfully installed my video card update, I opened a command prompt window and typed ‘python’ to see if I have any version installed on my device.

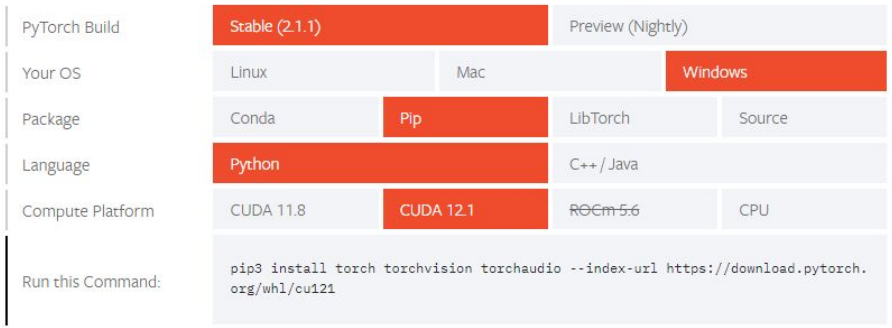
The system recommended me to install python via Microsoft store, so I downloaded it and also installed it (version 3.11.6).

By running the command ‘python –version’, the current version can be checked:

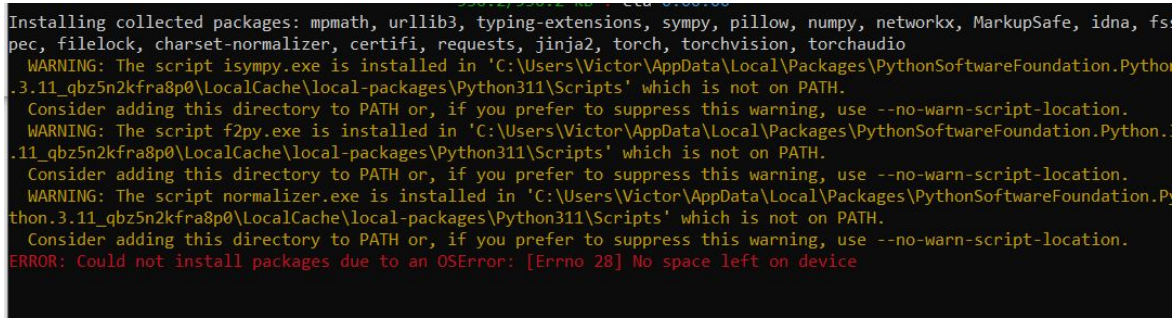
```
C:\Windows\system32>python --version
Python 3.11.6
```

PyTorch

For PyTorch installation, I entered their website and I selected the following preferences in the installation table:



First error I encountered during the process of installation after running the command above was:



But, after I emptied the C disk on my device, I ran again the command and the installation worked just fine this time.

In order to test out if the installation was done properly I ran the following command:

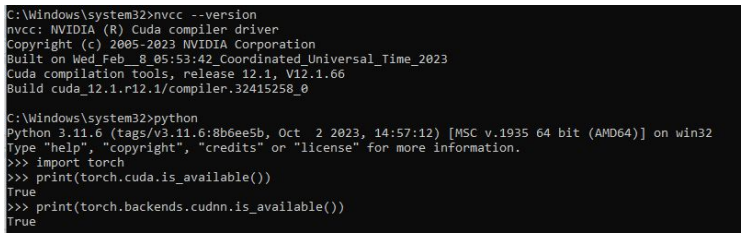
```
C:\Windows\system32>python -c "import torch; print(torch.rand(2,3).cuda())"
tensor([[0.6895, 0.9133, 0.7063],
        [0.8674, 0.3066, 0.8853]], device='cuda:0')
```

CUDA + cuDNN

For CUDA installation, I went on and download the CUDA Toolkit 12.1 version from Nvidia website in order to match the version needed to install pyTorch.

The installation went flawless and after it was done, I had to download the cuDNN that should match 12.x version of CUDA. After unzipping it, I moved the contents of bin, lib and include into CUDA folder located into C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v12.1 respectively.

In order to check if the whole process was completed successfully I ran the following lines of code:



Errors

OSError: [WinError 126] The specified module could not be found. Error loading "D:\Master\DataToolkit\Assignment1\venv\Lib\site-packages\torch\lib\torch_python.dll" or one of its dependencies.

I found the error above after the first try of installing the pyTorch and CUDA. By being not so focused on details, I installed the 12.3 version of CUDA and then I tried to install the pyTorch with CUDA 12.1 (by selecting 12.1 in the installation table from their website and running the command in cmd).

The solution was to uninstall and clear all of the stuff and retry from the beginning with clear attention at details. By selecting the right versions, I was able to clear the error and to make the environment work.

Thank you!