**Installation Guide**

**GPU & cuda for LLM**

**- Kevin Richard ( 3/11/2024)**

**Step 1: Compatibility**

**Check GPU Compatibility in below link**

[**https://developer.nvidia.com/cuda-gpus**](https://developer.nvidia.com/cuda-gpus)

**Step 2: Install Anaconda**

**Download link:**

[**https://www.anaconda.com/download**](https://www.anaconda.com/download)

**A screenshot of a computer

Description automatically generated**

**Choose “Just me” or else it causes issue with path mapping after env creation.**

**Allow it to save path whenever it asks.**

**Step 2: conda env**

**Create a conda environment. Use python version = 3.10**

**I had the least problems with “3.10” later versions are not compatible with many modules as of now.**

conda create -n yourenvname python=3.10

**Step 3: Pytorch**

**Go to below page and install run the generated installation query in the conda env/ prompt. Use : Version 11.8**

[**https://pytorch.org/get-started/locally/**](https://pytorch.org/get-started/locally/)

**A screenshot of a computer

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**Step 4: Install cuda**

[**https://developer.nvidia.com/cuda-11-8-0-download-archive**](https://developer.nvidia.com/cuda-11-8-0-download-archive)

[**https://developer.nvidia.com/cuda-11-8-0-download-archive?target\_os=Windows&target\_arch=x86\_64&target\_version=11&target\_type=exe\_local**](https://developer.nvidia.com/cuda-11-8-0-download-archive?target_os=Windows&target_arch=x86_64&target_version=11&target_type=exe_local)

**Step 5: Install cuDNN**

**This might require you to have a Nvidia account for your graphic card. It didn’t ask me for account when I tried to access the link this time.**

[**https://developer.nvidia.com/cudnn-downloads?target\_os=Windows&target\_arch=x86\_64&target\_version=10&target\_type=exe\_local**](https://developer.nvidia.com/cudnn-downloads?target_os=Windows&target_arch=x86_64&target_version=10&target_type=exe_local)

**In One of the tutorials, it is asked to add some paths to environment variables. I didn’t add them and cuda seems to work fine for me. If any issues please watch the last youtube link in the reference.**

**Step 6: Verify Installations:**

**In conda env cmd prompt:**

nvcc –version

**in python or ipynb file with env:**

import torch

**Step 7: Install required libraries**

Install the libraries in the conda prompt or after activating the conda cmd prompt in the Visual studio.

Try running the below attached file and install all dependencies as required.



**References:**

<https://www.youtube.com/watch?v=pPStdjuYzSI>

<https://medium.com/@lucsiecker/how-i-enable-my-cuda-capable-graphics-card-for-machine-learning-windows-10-11-b27a4beee326>

<https://www.youtube.com/watch?v=StH5YNrY0mE>