

Cudamat Installation on Windows 10 system

Cudamat can be downloaded from this github repo - [cudamat/cudamat: Python module for performing basic dense linear algebra computations on the GPU using CUDA. \(github.com\)](https://github.com/f0k/cudamat)

For my installation I downloaded this version of the cudamat as indicated by the author - <https://github.com/f0k/cudamat/archive/simplify-compile.zip>

Steps

1. Download the cudamat repo files.
2. Download Microsoft Visual Studio 2019 (or any version compatible with cuda sdk and gpu driver)
3. Update the path to the cl.exe file in environment variables.
4. Update the Nvidia GPU driver if any updated driver is available. To check the gpu driver try with pytorch cuda check code.
5. Install Cuda SDK compatible with the GPU driver. For the Nvidia Geforce 920 M 426.00 gpu driver I downloaded Cuda 10.1 update 2.
6. Run the setup.py file in the cudamat folder. (For system wide installation use the following command in Anaconda prompt) (Recommended),
>> pip install .
7. Before importing cudamat check the library name in cudamat.py file and learn.py file. They should match with the libraries created while installing otherwise edit the name in the file.
8. Run bench_cudamat.py file for testing the installation.

Errors and Fixes

1. building 'cudamat.libcudamat' extension

Traceback (most recent call last):

.....

p = os.fspath(p)

TypeError: expected str, bytes or os.PathLike object, not NoneType

Fix: Download cudamat-simplify-compile repo

(<https://github.com/f0k/cudamat/archive/simplify-compile.zip>)

[install problem in windows \(python in anaconda\) · Issue #100 · cudamat/cudamat \(github.com\)](#)

2. nvcc fatal : Cannot find compiler 'cl.exe' in PATH

error: command 'C:\\Program Files\\NVIDIA GPU Computing Toolkit\\CUDA\\v10.1\\bin\\nvcc.exe' failed with exit status 1

Fix: Update the path to cl.exe file in Windows Environment. The correct path will be .../VC/bin. The cl.exe file will be present inside the bin folder (can vary in other systems).

3. SystemExit: error: command 'C:\\Program Files\\NVIDIA GPU Computing Toolkit\\CUDA\\v11.4\\bin\\nvcc.exe' failed with exit status 1

Fix: Check installation in Anaconda prompt using pip command. Update the visual studio version and update path in environment.

4. cudamat.CUDAMatException: error initializing CUBLAS: (err=-2)

Fix: General Cublas error is present. To get the specific error edit the code in cudamat.cu file

```
EXPORT int cublas_init() {  
    return cublasInit();  
}
```

And install again. <https://github.com/cudamat/cudamat/issues/88#issuecomment-311393379>

5. cudamat.cudamat.CUDAMatException: error initializing CUBLAS: (err=1)

Fix: Cublas_Status_Initialization_Error is present. Update the GPU driver and install a compatible version of CUDA SDK.

6. CUDA error: CUDA driver version is insufficient for CUDA runtime version

Fix: Install a compatible version of CUDA SDK. Newer version of CUDA not compatible with GPU driver will give this error.