Install Python:

https://www.python.org/downloads/

I would suggest not to install the latest version as it might have some bugs. You want to have the similar setup as I have, install Python 3.10.

| alesse version | Pelesse date | | Click for more | |
|----------------|---------------|-----------------|----------------|--|
| athen 2 12 0 | | Download | Dalaase Natas | |
| Python 3.11.6 | Oct. 2, 2023 | Source Download | Release Notes | |
| Python 3.11.5 | Aug. 24, 2023 | 🕹 Download | Release Notes | |
| Python 3.10.13 | Aug. 24, 2023 | 🕹 Download | Release Notes | |
| Python 3.9.18 | Aug. 24, 2023 | Source Download | Release Notes | |
| Python 3.8.18 | Aug. 24, 2023 | 🕹 Download | Release Notes | |
| Python 3.10.12 | June 6, 2023 | 🕹 Download | Release Notes | |

Install Pycharm (IDE)

https://www.jetbrains.com/pycharm/download/?section=windows

Scroll down the page and download the communicate edition, which is free and will suffice the need for our ptoject:

| 📴 PyC | Charm Community Edition | |
|----------------------------|-----------------------------|--|
| The IDE 1 | for Pure Python Development | |
| Download Free, built on | exe ▼ open source | |

Visual Studio (to install C++ compiler):

https://visualstudio.microsoft.com/

Download the community edition: Free and suffice our project needs:



Once you run the exe, in the below screen, make sure to select the highlight section as shown below and click install:

| Installing — Visual Studio Community 2022 — 17.9.1 Workloads Individual components Language packs | Installation locations | | 3 |
|---|---|---|---|
| Need help choosing what to install? More info | | × | Installation details |
| Desktop & Mobile (5) NET Multi-platform App UI development Uid Android, IOS, Windows, and Mac apps from a single codebase using C# with .NET MAUI. | Build WPF, Windows Forms, and console applications using C#, Visual Basic, and F# with .NET and .NET Frame | | Visual Studio core editor The Visual Studio core shell experience, including syntax-aware code editing, source code control and work item management. |
| Dristop development with C++ Build modern C++ apps for Windgigs using tools of your choice, including MSVC Clang. CR:Le, or MSBuild. | Universal Windows Platform development Create applications for the Universal Windows Platform with C#, VB, or optionally C++, | | |
| * Mobile development with C++ Build cross-platform applications for iOS, Android or Windows using C++. | | | |
| Location Cr/Program Files/Microsoft Visual Studio\2022\Community Change | | | Remove out-of-support components |
| By continuing, you agree to the license for the Visual Studio edition you select | ed. We also offer the ability to download other software with Visual | | Total space required 1.19 GB |
| Studio. This software is licensed separately, as set out in the <u>3rd Party Notices</u> of licensel. | ar in its accompanying license. By continuing, you also agree to those | | Install while downloading * Install |

Install FFmpeg:

https://ffmpeg.org/download.html

Click on windows (or any other OS you use) and click the highlighted link below.



Then download the file as highlighted below.

| release builds | |
|--|--|
| latest release version: 7.0 2024-04-05 | |
| ffmpeg-release-essentials.7z ffmpeg-release-essentials.zip ffmpeg-release-full.7z ffmpeg-release-full-shared.7z | 26 MB .ver .sha256 86 MB .ver .sha256 .ver .sha256 .ver .sha256 |
| mirror @ github https://www.gyan.dev/ffmpeg/builds/ffmpeg-release-githul | b |
| source code @ github https://github.com/FFmpeg/FFmpeg/commit/083443d67c | |
| previous release version: 6.1.1 (complete archive @ mirror) | |

Once the file is downloaded, extract the file at the location you want, go to bin folder, copy the link til bin folder and add it to the environment variable

Search \rightarrow Type Environment variable

| Q env | |
|---|---------------------------------------|
| ← All Apps Documents Web |) Settings Folders Pr 🕨 2131 😵 V … |
| Best match | |
| Edit the system environment | |
| Control panel | - |
| | Edit the system environment variables |
| Apps | Control panel |
| | x |
| Git Bash (env) | |
| Settings | ea ^o pen iverse |
| Settings Content variables for your account | <pre></pre> |

| System Properties | × |
|--|---|
| Computer Name Hardware Advanced System Protection Remote | |
| You must be logged on as an Administrator to make most of these changes. | |
| Performance | |
| visual ellects, processor scheduling, memory usage and virtual memory | |
| Settings | |
| User Profiles | |
| Desktop settings related to your sign-in | |
| Settings | |
| Start-up and Recovery | |
| System start-up, system failure and debugging information | |
| Settings | |
| Environment Variables | |
| | |
| OK Cancel Apply | |

| Variable | Value | |
|-------------------|--|----|
| _PSLockDownPolicy | 0 | L |
| ComSpec | C:\Windows\system32\cmd.exe | J. |
| configsetroot | C:\Windows\ConfigSetRoot | |
| CUDA_PATH | C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v12.1 | |
| CUDA_PATH_V11_7 | C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v11.7 | |
| CUDA_PATH_V11_8 | C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v11.8 | |
| CUDA_PATH_V12_1 | C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v12.1 | |
| <u></u> | | |
| | New Edit Delete | |
| | | |

For GPUs

Nvidia driver:

https://www.nvidia.com/en-gb/geforce/drivers/

Select the details as per your configurations and click on download:

| Manual Dr | iver Search | | | | |
|-------------------------|---|------|-----|------|--|
| Search all GeForce driv | ers by providing your system information. | | | | |
| Product Type: | | ▼ | | | |
| Product Series: | | • | ? | | |
| Product: | | • | | | |
| Operating System: | Windows 10 64-bit | | hiv | erse | |
| Language: | | • | | | |
| Download Type: | | • | 0 | | |
| | | | | | |
| | Q Start Se | arch | | | |

Cuda:

https://developer.nvidia.com/cuda-11-8-0-download-archive

I would suggest to download 11.8 version but if you want you can also download the different version but don't download the latest one as many software might not be compatible with the latest CUDA version.

Cuda deep Neural Network:

https://developer.nvidia.com/rdp/cudnn-archive

NVIDIA cuDNN is a GPU-accelerated library of primitives for deep neural networks.

Download cuDNN v8.9.7 (December 5th, 2023), for CUDA 12.x

Download cuDNN v8.9.7 (December 5th, 2023), for CUDA 11.x

Local Installers for Windows and Linux, Ubuntu(x86_64, armsbsa)

Local Installer for Windows (Zip) Local Installer for Linux x86_64 (Tar) Local Installer for Linux PPC (Tar)

If you have downloaded different cuda version for e.g., Cuda 12.x, select cuDNN version accordingly.

Remember, it would require you to signing in first before downloading cuDNN



Now extract this file and to the location where you have installed CUDA. Default location is :

C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v11.8 (you might have different version If you installed different CUDA version). Now from the extracted file copy bin, include and lib folder and paste it in the location where you installed CUDA, in my case C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v11.8. If it ask for the confirmation to replace the file in destination folder, click yes.