This is for OpenPose 1.70 with Python.

System Configuration

Stuff you will need before downloading openpose,

OpenPose works best when running on GPU, so have all GPU installations. Don't use CPU mode as it is slow and comes with less functionality.

Downloads for GPU:

- CUDA version: 11.1.1
  i. CUDA Toolkit 11.1 Update 1 Downloads | NVIDIA Developer
- cuDNN version: 8.0.5.39
  i. cuDNN Archive | NVIDIA Developer

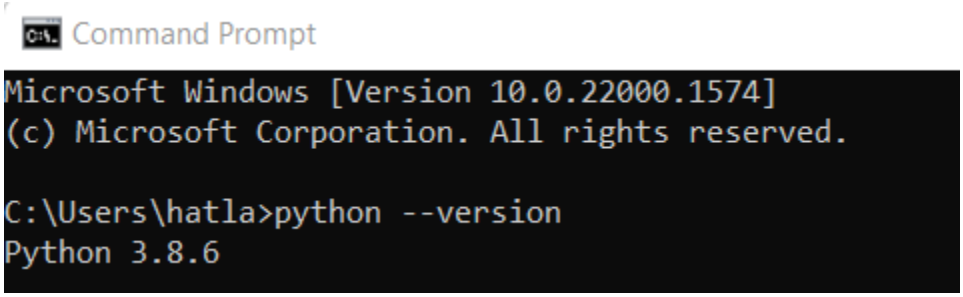
cuDNN will need a developer account to download:
Email: HATlabuvic@outlook.com
Password: standard HATlab password

It is good to know the GPU model incase errors occur.
GPU model: Nvidia GeForce RTX 3060 Laptop 6GB(if using the HATlaptop01 or HATlaptop02, if not check to find your GPU model)

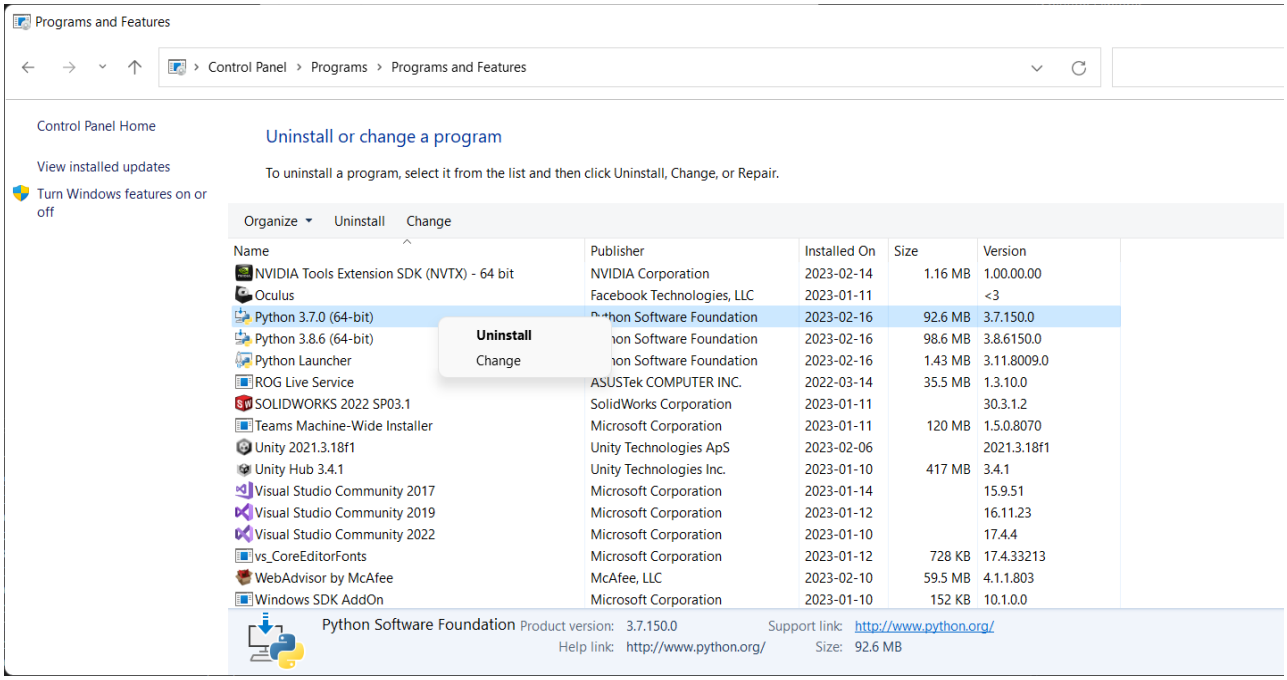
Download CMake to configure OpenPose build.(version 3.19.0 was recommended but newer versions also worked)
Download | CMake

Download Python version 3.8.6
Python Release Python 3.8.6 | Python.org

Once python is installed check to make sure it is the default python version running on command prompt. Open command prompt and type "python --version"



If it returns Python 3.8.6, you are good to go! If not, go to the control panel and install all python versions.



Go to Uninstall a program(at the bottom-left of the control panel menu). From the list of programs click the python versions to get the option to uninstall them.

After they are all uninstalled, reinstall 3.8.6 and try again.

After you are on the correct version you will have to install some python packages.

1. Install numpy(numpy==1.19.3)

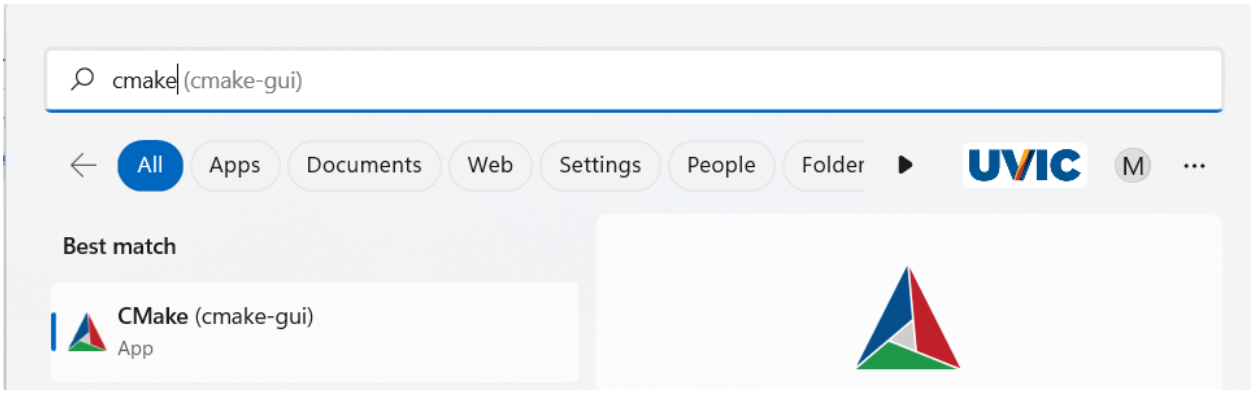
```
C:\Users\hatla>pip install numpy==1.19.3
```

2. Install cv2(called opencv-python when installing, but in files called cv2) (version: 4.4.0.40)

```
C:\Users\hatla>pip install opencv-python==4.4.0.40
```

Go to github and clone Openpose to your computer.

After python is fully configured, open cmake-gui.

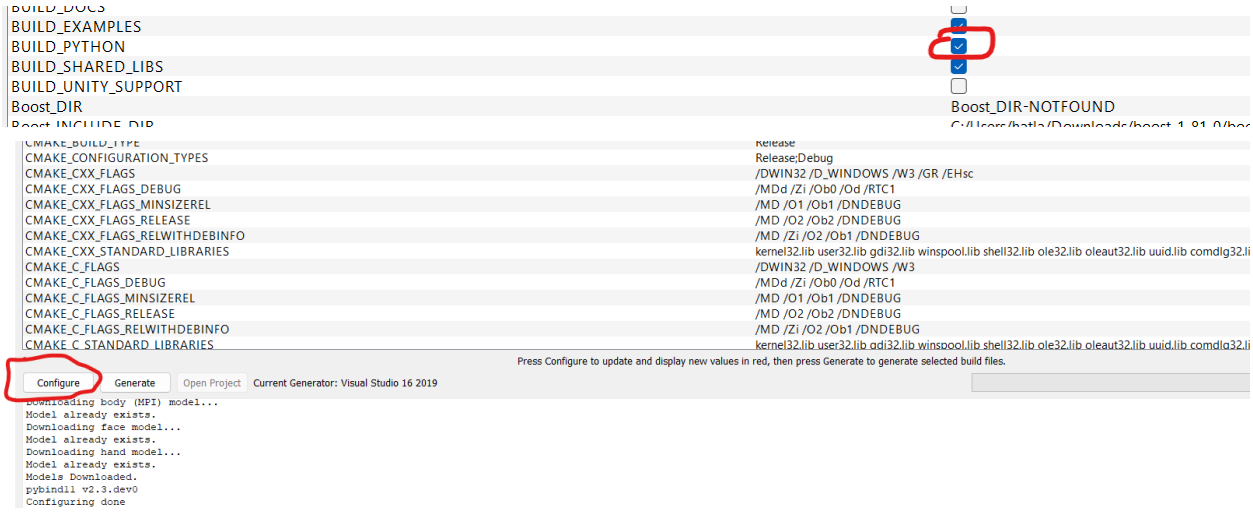


Select the OpenPose root folder in the Where is the source code:

Create a build folder in the OpenPose root folder and select it in the where to build binaries:

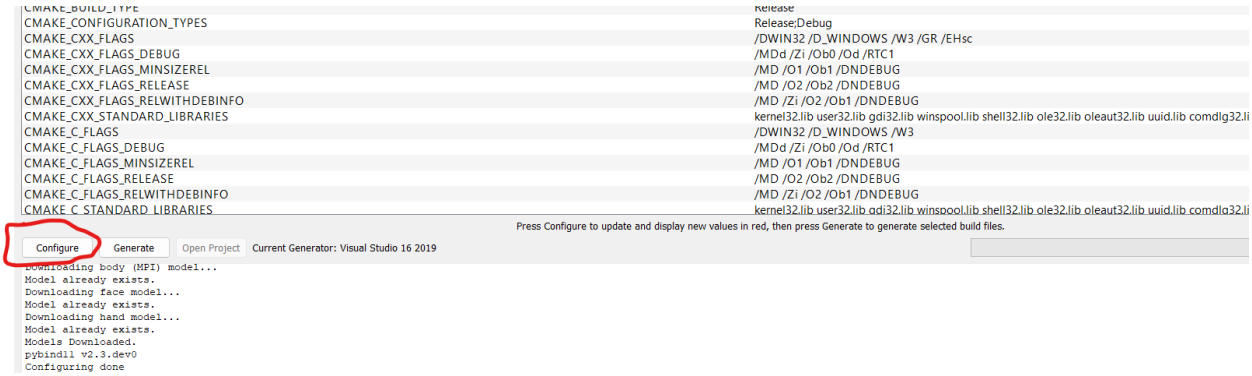
If Prompted, select **Visual Studio Code 2019 and x64 architecture**

I list of options should appear, select BUILD_PYTHON and click configure, the configuration should take some time ~2mins



Some new options should appear, click PYTHO_EXECUTABLE and select the file path that matches the image below. Also make sure PYBIND11_INSTALL is checked.

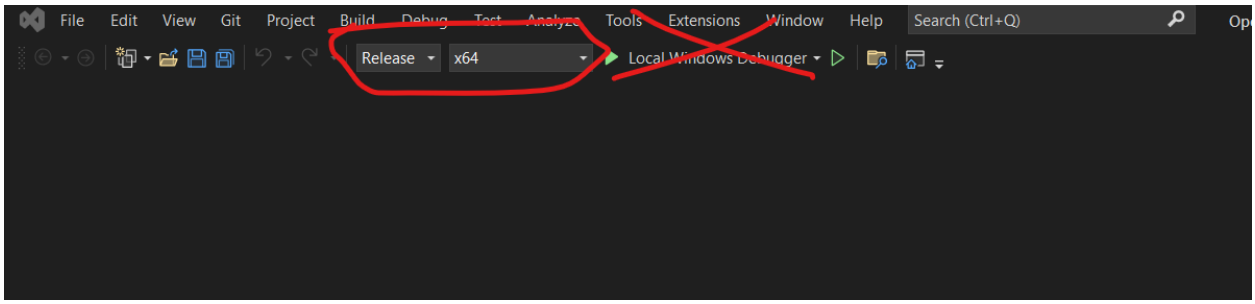
Click configure again:



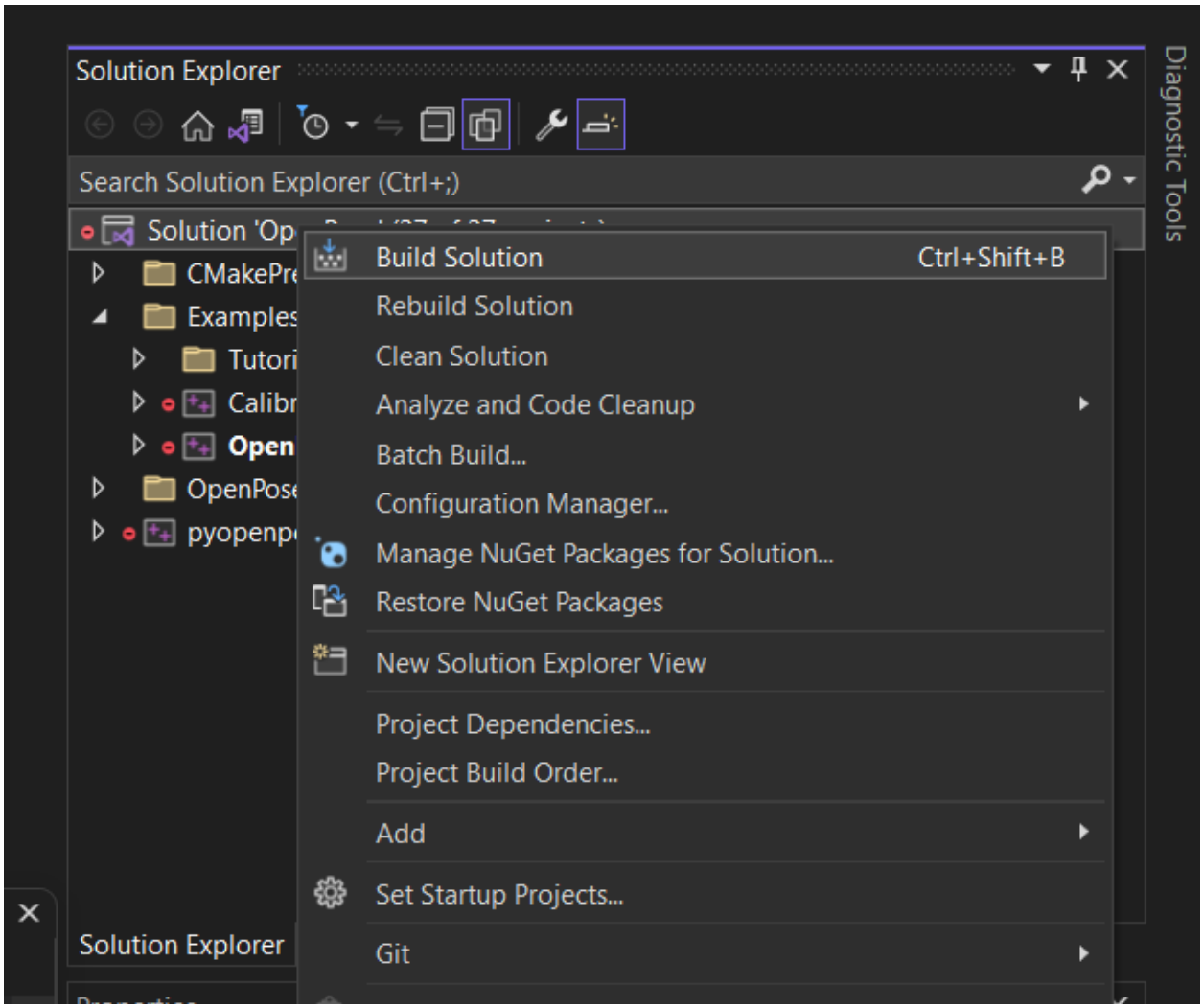
If options highlighted red appear, click configure until they stop appearing.

Next click **Generate**, the button beside Configure.
After the project is generated, click **Open Project**.

When visual studios has opened: select **Release** as the Solution Configuration and **x64** as the architecture, but **do not click the green play button!!**



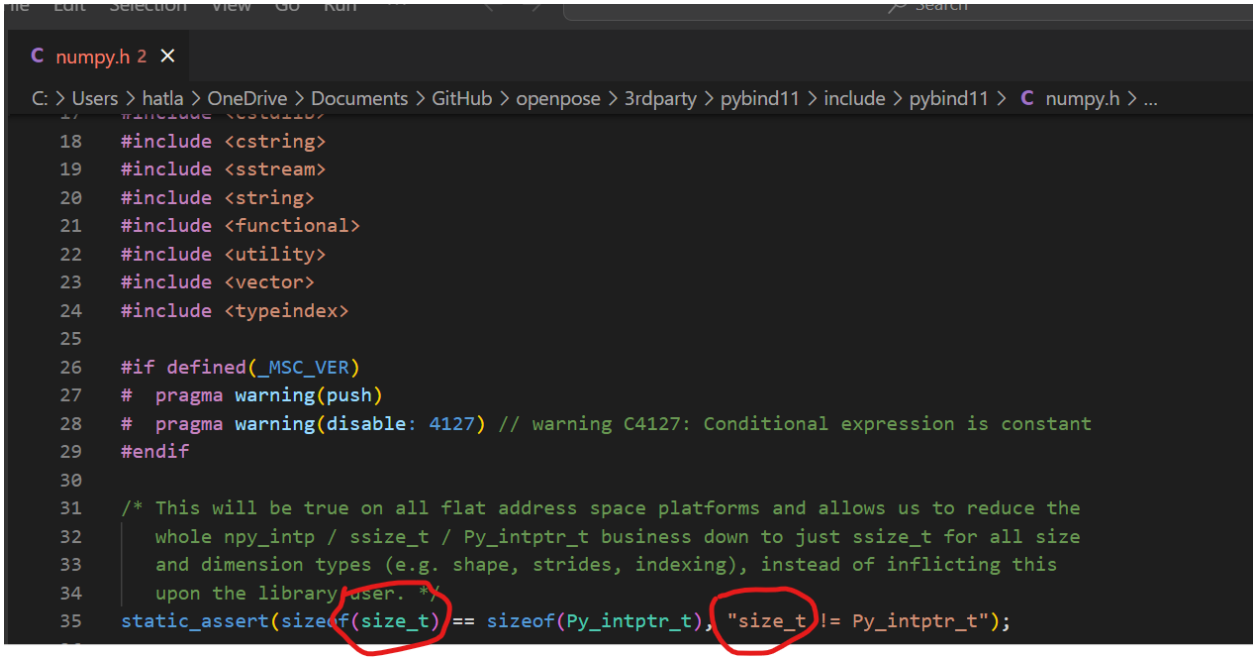
Go to the solution explorer at the side of the page and right click on the solution tab, click “Build Solution”



After the Solution should build without any errors.

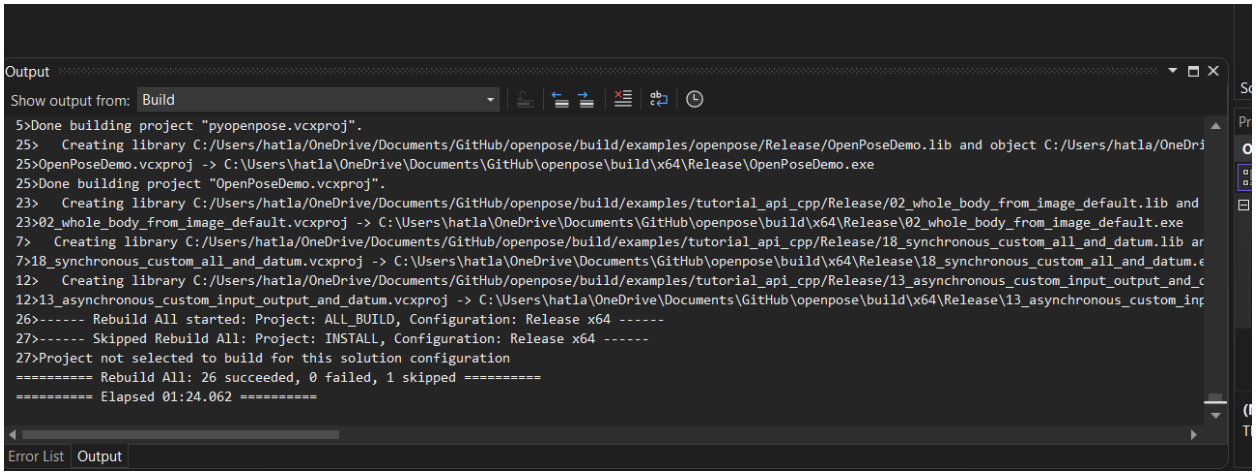
If you have an error message saying **“ssize_t is not identified”** or something similar, go to file explorer and open up the OpenPose root directory.

Go to **“openpose\3rdparty\pybind11\include\pybind11”** and open up **numpy.h**

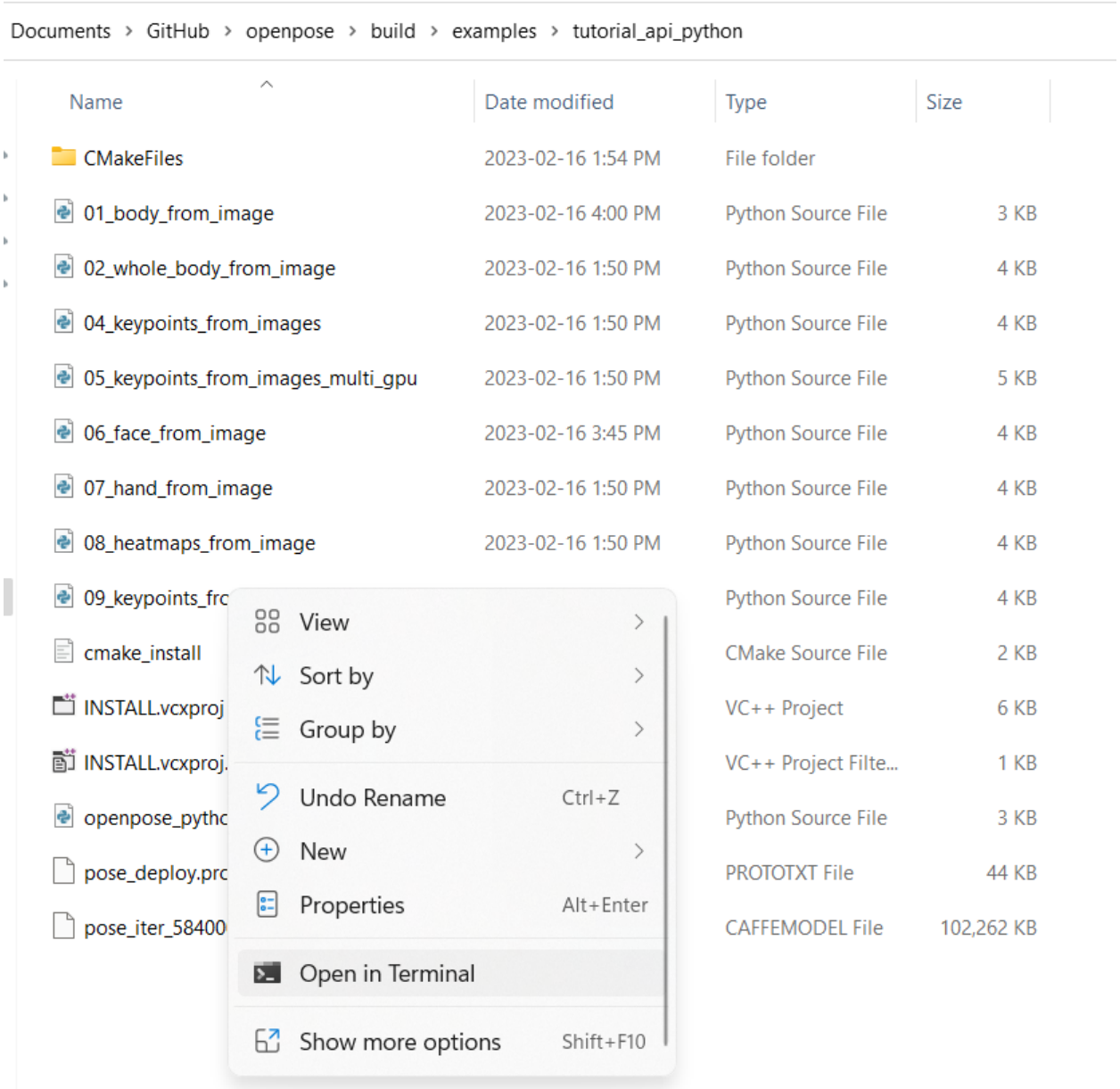


change **ssize_t to size_t** on all instances of ssize_t in the document.

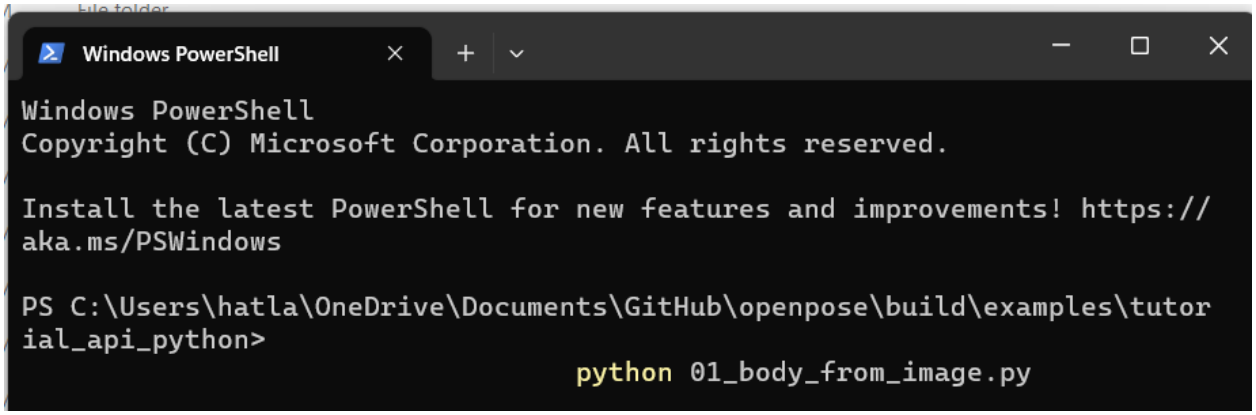
Now rebuild the solution, and make sure most of the processes succeed.



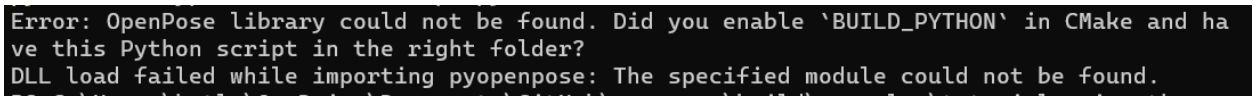
Go to the python api example folder and right click on the whitespace. Click open in Terminal.
Do not run these python files in visual studio or visual studio code as it won't work!!



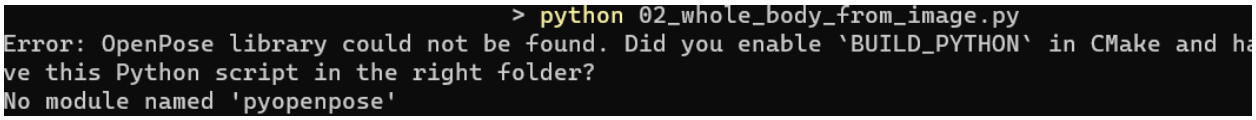
To test if the API is working correctly, type **“python 01_body_from_image.py”**



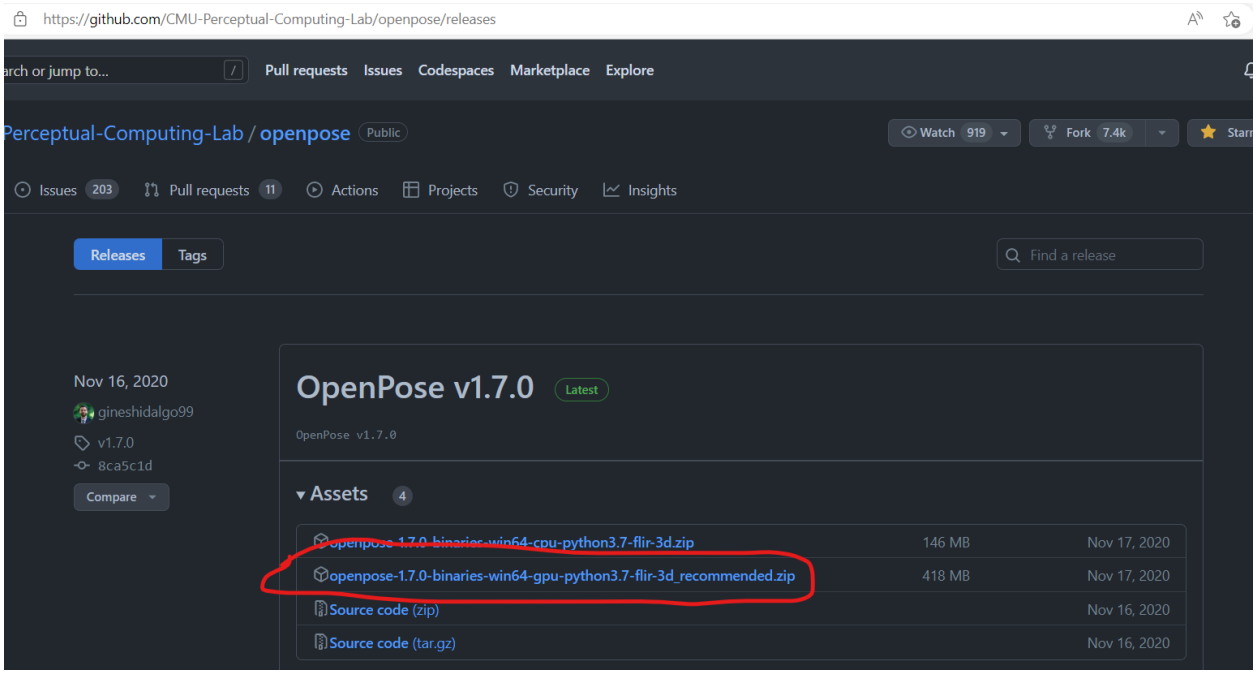
If you get “OpenPose library could not be found” error



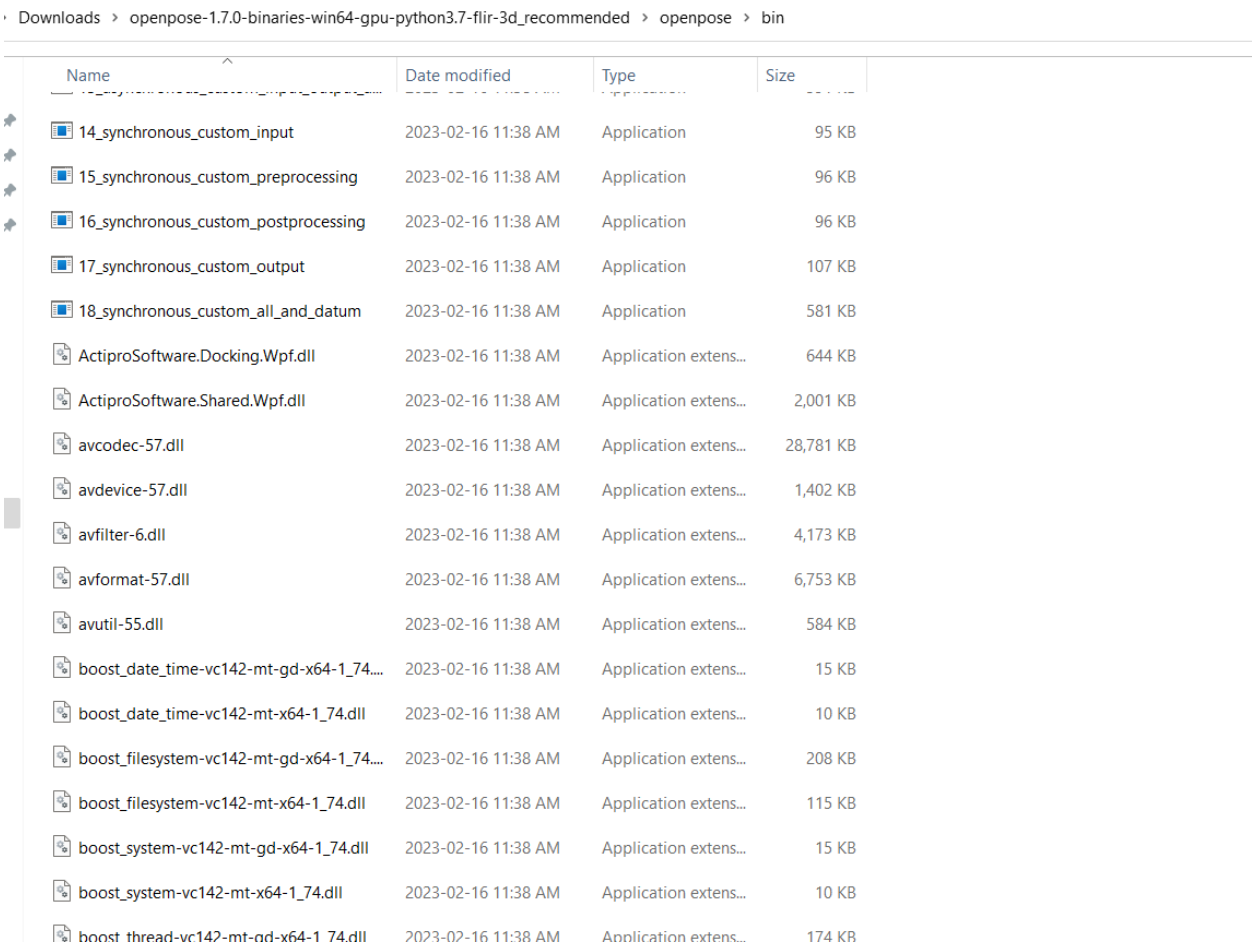
Or if you had the “no module named ‘pyopenpose’ error



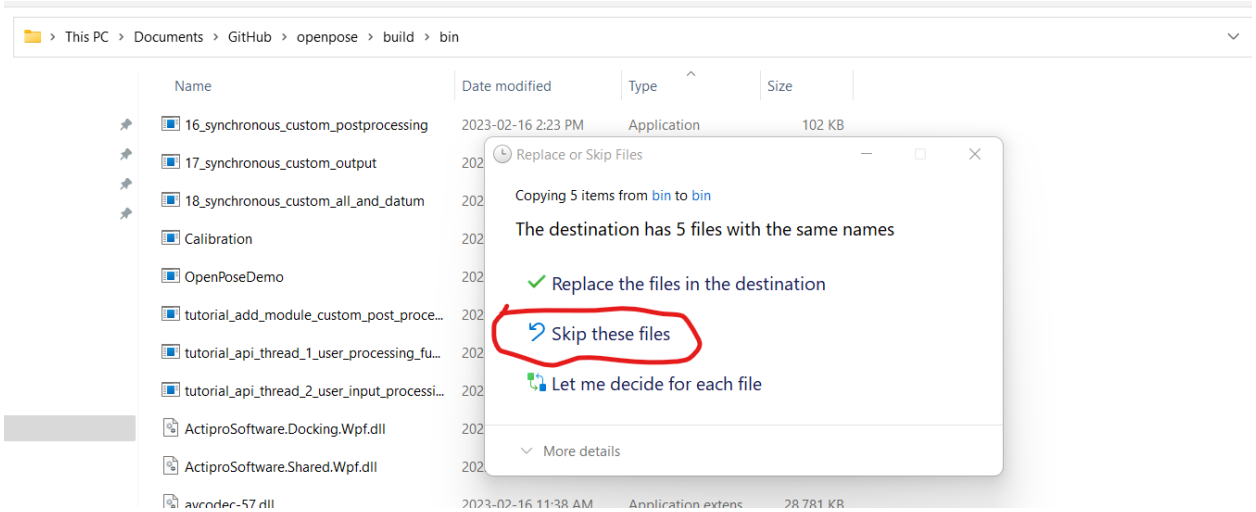
Go back to the OpenPose github page and go to the releases.



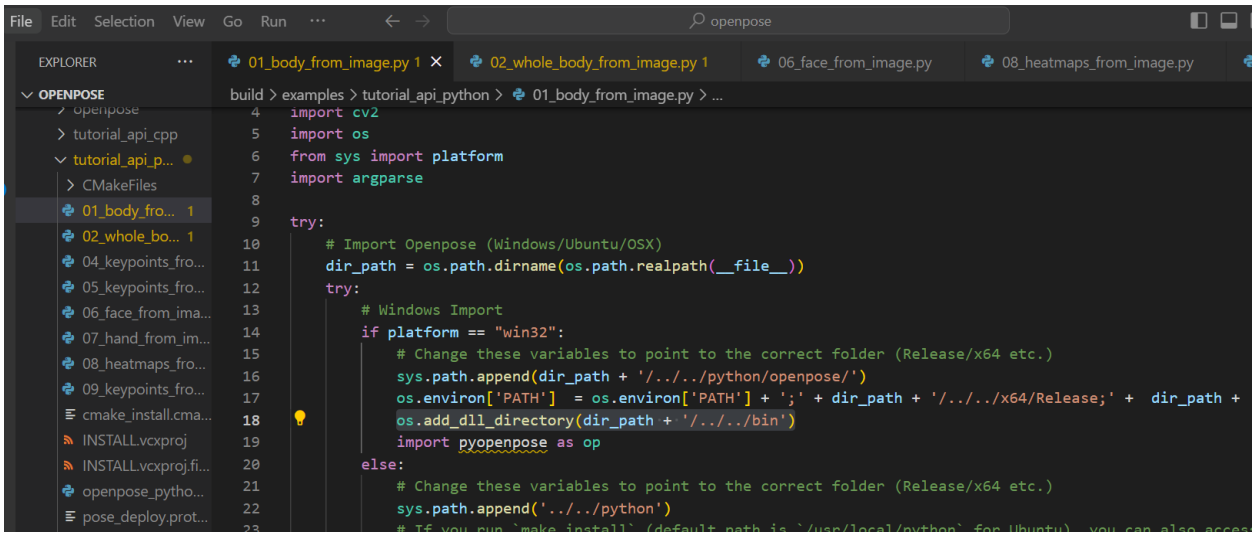
Download “openpose-1.7.0-binaries-win64-gpu-python3.7-flir-3d_recommended.zip”. Once downloaded, extract all to a folder in Downloads.



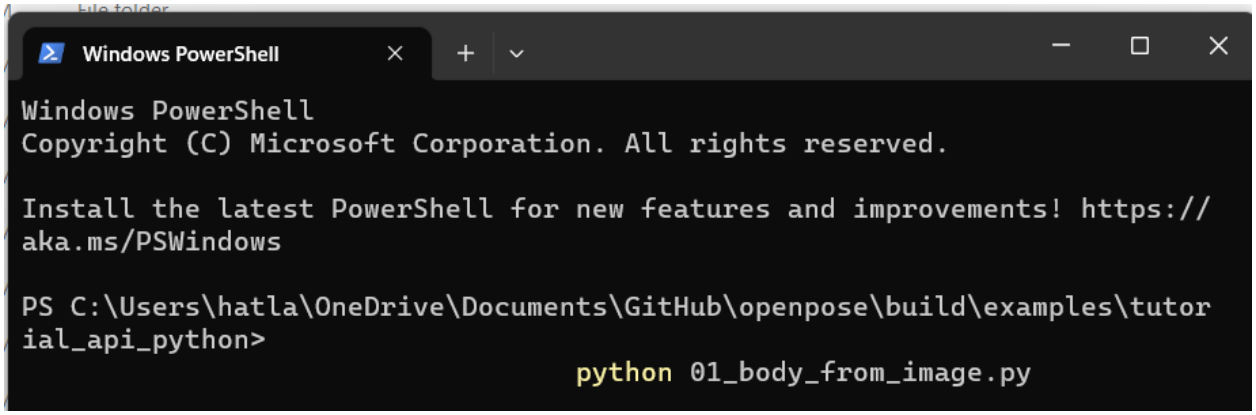
Go to the bin folder and copy all .dll files and move them to your main OpenPose bin folder, Skip all files that have the same names.



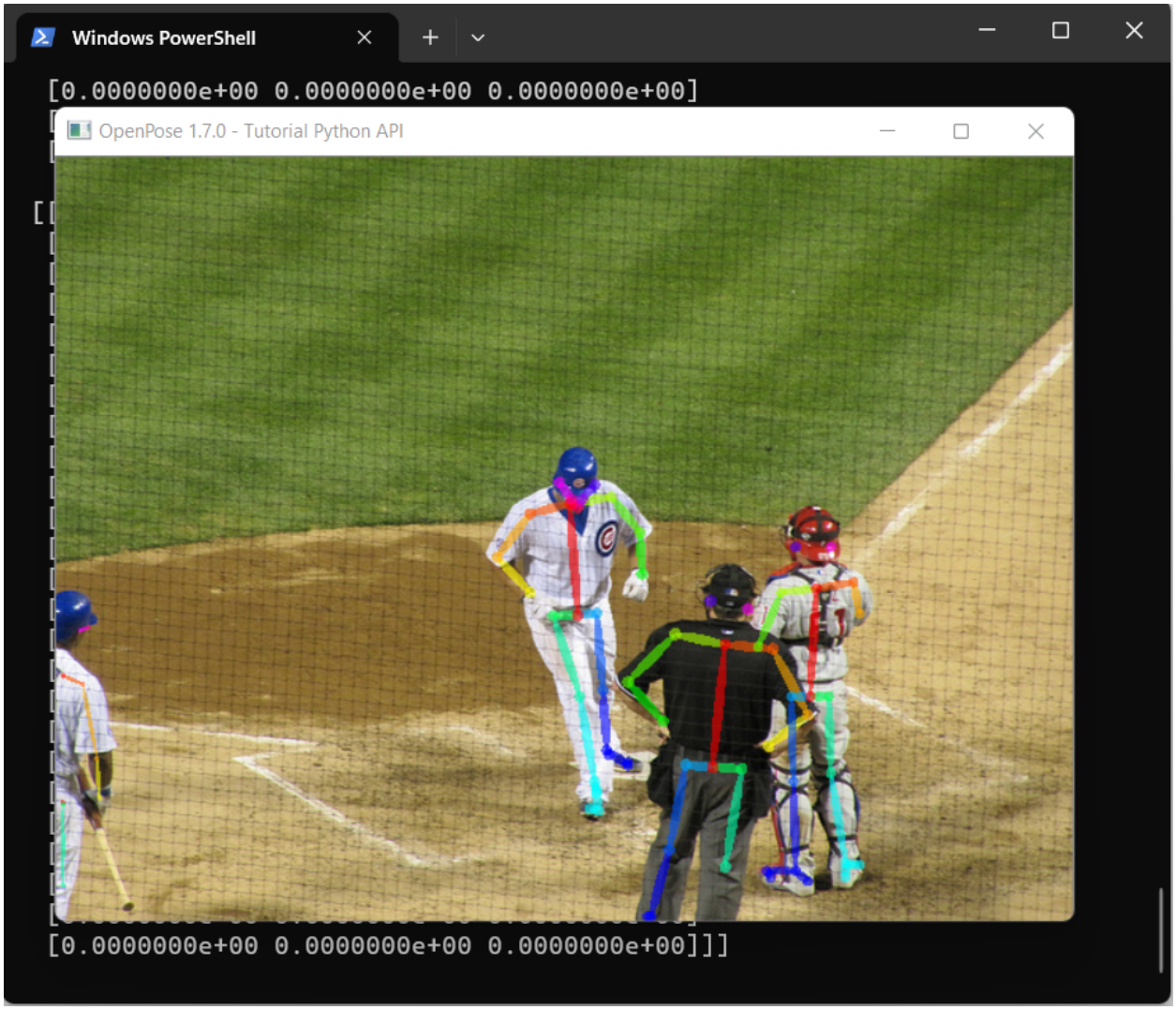
For each test file you will have to **add “os.add_dll_directory(dir_path + ‘/../../bin’)” before importing pyopenpose.**



Try running **“python 01_body_from_image.py”** again



If the picture below opens congratulation you configured it correctly!


Windows PowerShell
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OpenPose 1.7.0 - Tutorial Python API
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