Imperial College London

Workshop on Physics Informed Neural Networks Biomechanics

Choon Hwai Yap
c.yap@imperial.ac.uk

Wei Xuan Chan
w.chan@imperial.ac.uk

*Dept of Bioengineering, **Imperial College London**, London, United Kingdom*

Imperial College London

Preparing for workshop

Download and Install these:

Imperial College London

Docker

Setting up isolated environment to host Nvidia Modulus and its supporting programs

https://docs.docker.com/engine/install/

Spyder

IDE: code development environment

https://www.spyder-ide.org/

Paraview

Display PINN results

https://www.paraview.org/download/

Download and Install these:

Imperial College London

Nvidia Modulus

The container (environment) where Nvidia Modulus is setup and ready to run

https://github.com/NVIDIA/modulus

Readme file has detailed instructions

Using your Windows command prompt or Linux terminal:
Pull the Modulus docker image from Nvidia Container Registry:

If Docker not running, open up docker desktop

```
:~$   docker pull nvcr.io/nvidia/modulus/modulus:22.09
```

(downloading and extracting will take 15-30+mins)

Our PINN codes are not updated to v24.04 yet.

Our tutorial will not involve GPU.
If you want to use GPU, you will need to install “Nvidia Container Toolkit” and configure your docker. This can only be done in an Ubuntu/Linux OS: (we will skip this step and use CPU)

https://docs.nvidia.com/datacenter/cloud-native/container-toolkit/latest/index.html