Getting the Simulation to Work for Pose Estimation Program

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Requirements for Simulation

Software Requirements:

* Python 3
* Numpy Repository
* Time Repository (Usually Installed with Python)
* Sympy Repository (For Inverse Kinematics Function)

Download Simulation

Got to the following website

<https://www.coppeliarobotics.com/downloads>

You should download ‘CoppeliaSim Edu’

Install Simulation

Install the newly downloaded ‘ CoppeliaSim\_Edu\_V4\_4\_0\_rev0\_setup’ in your desired Location

Remote Api for Simulation

Remote API is how the python script in the program is communicating with the Simulation software so after the installation is completed you have to find the following 3 files and copy and save them in your python program repository.

Files to copy:

Sim.py

Sim\_const.py

remoteApi.dII

These files are located as follows:

In the Coppelia installation Directory as shown below you can find sim.py and sim\_const.py

Text

Description automatically generated

And

RemoteAPi.dll is in the same directory in lib/lib/Windows directory

You can follow the following link for other languages

<https://www.coppeliarobotics.com/helpFiles/en/remoteApiClientSide.htm>

The following Image is the result you should have if running with python on windows as stored in the program directory.

Graphical user interface, table

Description automatically generated



Operation of Simulation

Launch the simulation file from the folder ‘simulation File’

A 6DOF robot should be seen in a coppeliasim software.

Now this has been configure to work with the program so press the play button on top which is shown below

A picture containing graphical user interface

Description automatically generated

Now run the python program on your desired IDE please ensure all the files are in the directory with the required repositories. If all is there the program will successfully connect to simulation and start to simulate.

Thank you