MTRN4230 Lab 0: Setup

Aim

The aim of this pre-lab is to provide students with instructions on what and how to setup before week 1. You are recommended to also complete the training modules for the ur5e during this week so that you may attempt the ROBOT-0 safety assessment in Week 1.

1.1. Virtual Machine Installation

Follow instructions on the "VM Installation pdf", to setup the virtual machine properly.

1.2. RVC Toolbox Installation

Follow instructions on the "RVC Installation.pdf" on Moodle to setup the RVC Toolbox properly.

For **Windows**, you can find a Youtube link here.

For **OSX,** you can find instructions on Moodle here, showing how to find and set the MATLAB path correctly. Note that this video is for the RTDE Toolbox, but you can follow the same method for the RVC Toolbox.

1.3. RTDE Toolbox Installation

Following the github instructions here to download and setup the RTDE Toolbox.

1.4. Read UNSW UR5e Safety Documents

A. Read the RMF and 'Declare as read' (at the bottom): UR5e Risk Management Form
B. Read the SWP and 'Declare as read' (at the bottom): UR5e Safe Work Procedure
    a. Note that the Safe Work Procedure goes through how to start up and shut down the UR5e. Remember to read this carefully as you will be required to demonstrate this during the ROBOT-1 Safety Assessment in Week 2.

1.5. UR5e Training Modules

Complete all 8 modules from the e-series core track. You will need to create an account using your UNSW email id to do this. When you have finished these modules, remember to download the certificate as you will need to show this to your demonstrator for the ROBOT-1 Safety Assessment in Week 2.

1.6. Australian Safety Standards

- Read through the relevant Australian Standards accessible through UNSW Library and linked on Moodle
    - AS4024.3301 (2017): Robots and robotic devices—Safety requirements for industrial robots— Robots
    - AS4024.3302 (2017): Robots and robotic devices—Safety requirements for industrial robots—Robot systems and integration
    - AS4024.3303 (2017): Robots and robotic devices—Collaborative robot
- Note that these documents are long. We do not expect students to know about all of the details in all of these documents. Students are only required to understand the safety standards presented to them in Lecture 1.