UNL01 Workspace Setup

This document provides instructions to help install the workspace and drivers that have been provided on the included USB drive. It is assumed that this workspace will be installed on a computer running Melodic and configured for use with the Husky platform.

1. Copy the catkin\_ws directory from the included USB drive into the home directory of the robot computer.
2. Run the following commands to install dependencies:

cd ~/catkin\_ws/src

wstool init

wstool merge unl01\_husky/depends.rosinstall

wstool update

cd ~/catkin\_ws

rosdep install --from-paths src --ignore-src -r -y

Your robot computer must have an active internet connection during this process.

1. Before building the workspace, follow these pre-build instructions for the ros\_kortex driver:

sudo apt install python3 python3-pip

sudo python3 -m pip install conan

conan config set general.revisions\_enabled=1

conan profile new default --detect > /dev/null

conan profile update settings.compiler.libcxx=libstdc++11 default

1. Build the workspace:

cd $HOME/catkin\_ws/

catkin\_make

source devel/setup.bash

1. Source the workspace and the script containing this project’s environment variables in your robot’s /etc/ros/setup.bash file:

sudo nano /etc/ros/setup.bash

Add the following two lines at the end of the file:

source /home/administrator/catkin\_ws/devel/setup.bash

source /home/administrator/catkin\_ws/src/unl01\_husky/unl01\_husky\_description/scripts/environment

source /home/alija/catkin\_ws/devel/setup.bash

source /home/alija/catkin\_ws/src/unl01\_husky/unl01\_husky\_description/scripts/environment

1. You can use the following commands to move launch files into the /etc/ros/melodic/ros.d directory so that they run on startup:

rosrun husky\_bringup install

rosrun unl01\_husky install

<http://wiki.ros.org/melodic/Installation/Ubuntu>

[https://www.clearpathrobotics.com/assets/guides/melodic/ros/Getting%20Started%20with%20Ubuntu.html](https://www.clearpathrobotics.com/assets/guides/melodic/ros/Getting Started with Ubuntu.html)

apt-get install python-wstool

sudo apt-get install python-rosdep

sudo rosdep init

rosdep update

pip3 install -U MarkupSafe

source /opt/ros/melodic/setup.bash

echo "source /opt/ros/melodic/setup.bash" >> ~/.bashrc

source ~/.bashrc

sudo apt install ros-melodic-pcl-ros

sudo apt-get install ros-melodic-gazebo-ros

/opt/ros/melodic/share/cv\_bridge/cmake/cv\_bridgeConfig.cmake change opencv to opencv4

apt-get install ros-melodic-ddynamic-reconfigure

<https://github.com/IntelRealSense/librealsense/blob/master/doc/installation_jetson.md>

catkin\_make --cmake-args -DCONAN\_TARGET\_PLATFORM=jetson

source devel/setup.bash

sudo nano /etc/ros/setup.bash: This file is empty at the start?