

Software Environment Requirements

Introduction:

This document outlines the software environment requirements for our project. It includes the necessary operating systems, libraries, and packages that need to be installed and configured to ensure seamless operation and compatibility.

1. Operating System:

ROS (Robot Operating System) compatible Linux distribution (e.g., Ubuntu 18.04 or 20.04).

2. ROS System:

ROS Melodic (for Ubuntu 18.04) or ROS Noetic (for Ubuntu 20.04).

Installation guide: <http://wiki.ros.org/ROS/Installation>

3. Roboclaw3 Package for Linux:

Install the Roboclaw3 package for ROS to interface with the Roboclaw motor controller.

Installation guide: <https://github.com/topics/roboclaw>

4. Pyserial Package:

Install the Pyserial package, which is a Python library for communicating with serial devices.

Installation: Run the following command in the terminal: `pip install pyserial`

5. OpenCV-Python:

Install OpenCV-Python, which is a Python wrapper for the OpenCV library, used for computer vision and image processing tasks.

Installation: Run the following command in the terminal: `pip install opencv-python`

6. DeepLearning-Python:

Use python3 to create virtual environment, as well as pip install all other required packages by following the installation instructions provided in GitHub.

Conclusion:

Ensure that all the listed software components are properly installed and configured to guarantee a smooth and efficient development process. If you encounter any issues during installation or require additional assistance, consult the provided installation guides, or seek help from the respective software communities.