



How 2 CR

This document is meant to help you get the bare minimum necessary stuff to launch Gazebo and rViz with the Summit XL robot.

This is just a summary of some info from ROS labs 3 and 4. I highly recommend you *at least* skim through the lab documents and videos to get an idea on how to work with ROS.

This document assumes you already have ROS noetic installed.

Getting Dependencies

Run `summit_install.sh` wherever you want your project folder to be.

This script will create a folder named `cr_project`, it will download the needed packages and repos.

This script is copied from the third ROS tutorial, it can be found at around `18:00`.

Some modifications were made to reduce code duplication.

Failure to Launch

at `cr_project/srcdd/summit_xl_sim/summit_xl_gazebo/launch/summit_xl_one_robot.launch` line 104 and 105 will have the following:

```
<arg name="arm_manufacturer" value="$(arg arm_manufacturer)"/>
<arg name="arm_model" value="$(arg arm_model)"/>
```

Running the launch command `roslaunch summit_xl_sim_bringup`

`summit_xls_complete.launch` with these lines in the file will produce an error with the following error message:

```
RLEException: unused args [arm_manufacturer, arm_model] for include of [/mnt/FC8006E780
06A7EA/Users/tarek/Desktop/College/Year4/FirstTerm/CR/project/cr_project/src/summit_xl
_common/summit_xl_control/launch/summit_xl_control.launch]
The traceback for the exception was written to the log file
```

once you remove those two lines, the launch command will work and will launch gazebo and rViz.

[stackoverflow answer to this exact problem](#)

Useful commands:

Shamelessly plagiarized from the third tutorial at [23:00](#)

- Launch Gazebo + rViz: `roslaunch summit_xl_sim_bringup summit_xls_complete.launch`
- List ROS topics related to robot movement commands: `rostopic list | grep cmd_vel`
 - Note: that you should be running the simulator since that's what publishes to the topic.
- Control robot movement: `roslaunch teleop_twist_keyboard teleop_twist_keyboard.py`
`/cmd_vel:=/robot/robotnik_base_control/cmd_vel`