Robot Arm Manipulator Environment

ROS2 packages for training my 6-axis robot arm (modified version of an open-source hardware design by tw2ka) for reinforcement learning tasks.

Using ROS2 Jazzy, Jazzy control packages, and Gazebo Harmonic.

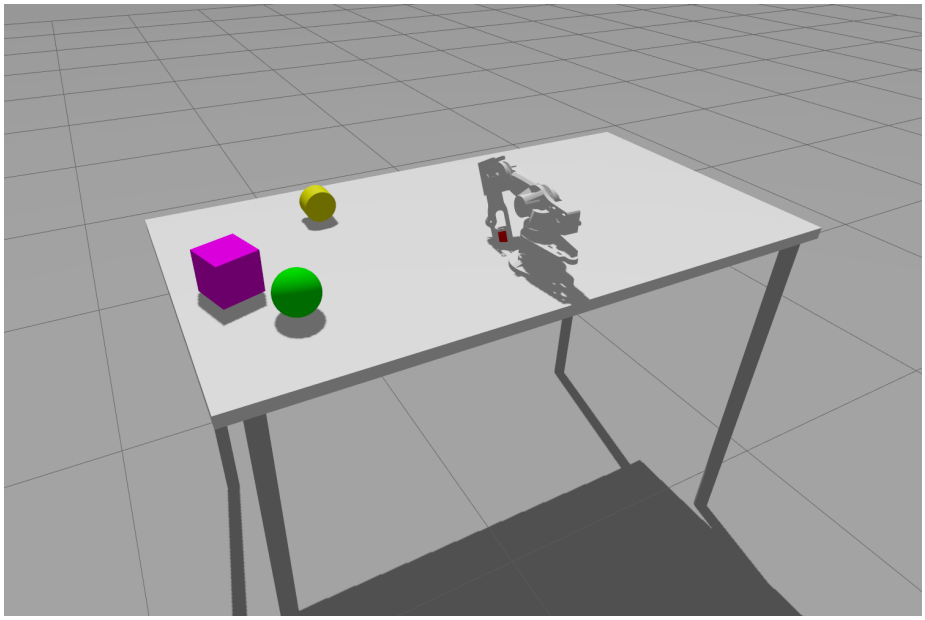

Figure 1: arm drawing

Quick start

Build the packages like any other ROS packages – from a workspace dir:

Create a workspace and add the packages,

```
mkdir arm_ws && cd arm_ws
git clone https://github.com/hunterwellis/Manipulator-Environment.git ./src
```

Source ROS then build and source the package,

```
source /opt/ros/jazzy/setup.bash
colcon build
source ./install/setup.bash
```

arm_description

Contains robot URDF, meshes, and Gazebo launch files for the arm.

Arm model in RViz.

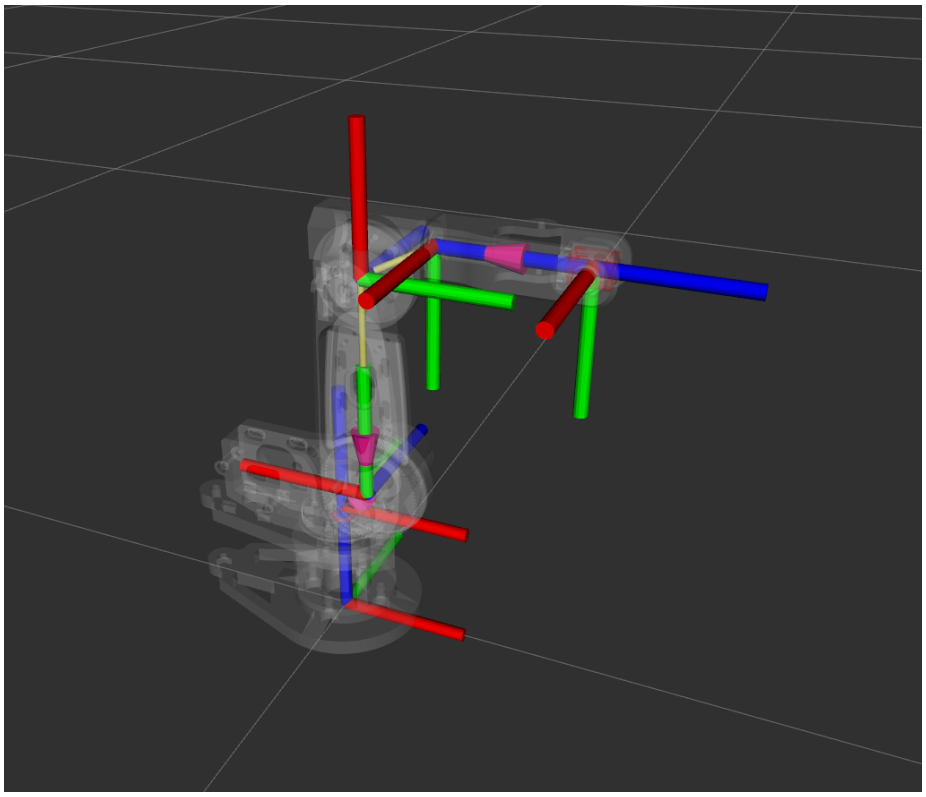

Figure 2: arm rviz

arm_simulation

The simulation package contains the SDF world files and other files related to the Gazebo simulation environment.

To launch the arm in the gazebo environment

```
source /opt/ros/jazzy/setup.bash
ros2 launch arm_simulation arm_spawn.launch.py
```

TODO:

- add camera sensor