KENNESAW STATE
UNIVERSITY

MTRE 4200-01: Robotics Analysis and Synthesis
Lab 06: Simulated Robotic Arm

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Contents

1 Member Contributions

- Ben Hall
- Brighton Swales
- Sebastian Diaz Mora
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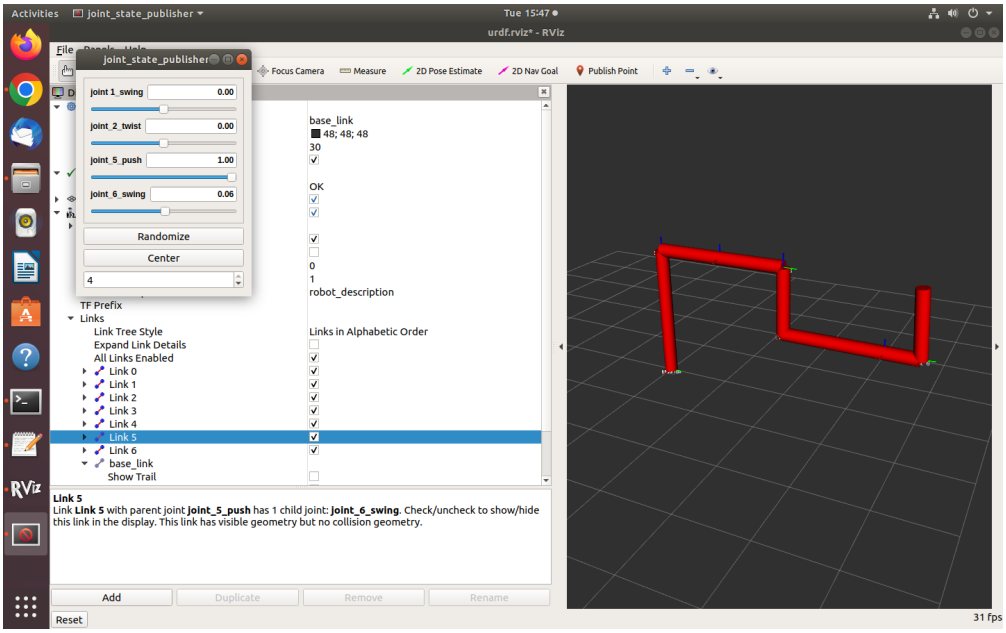
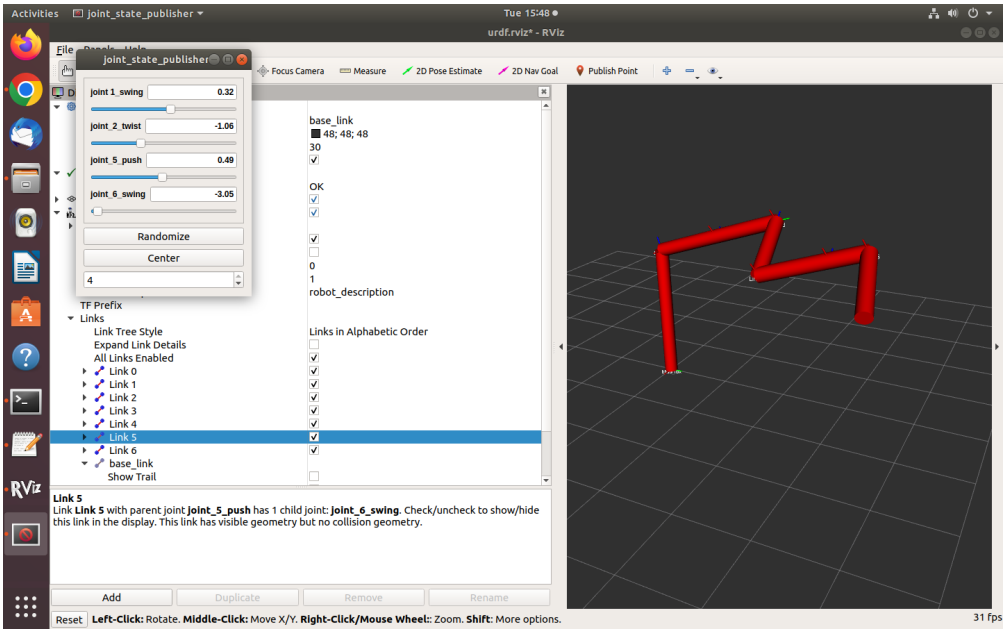
2 Abstract

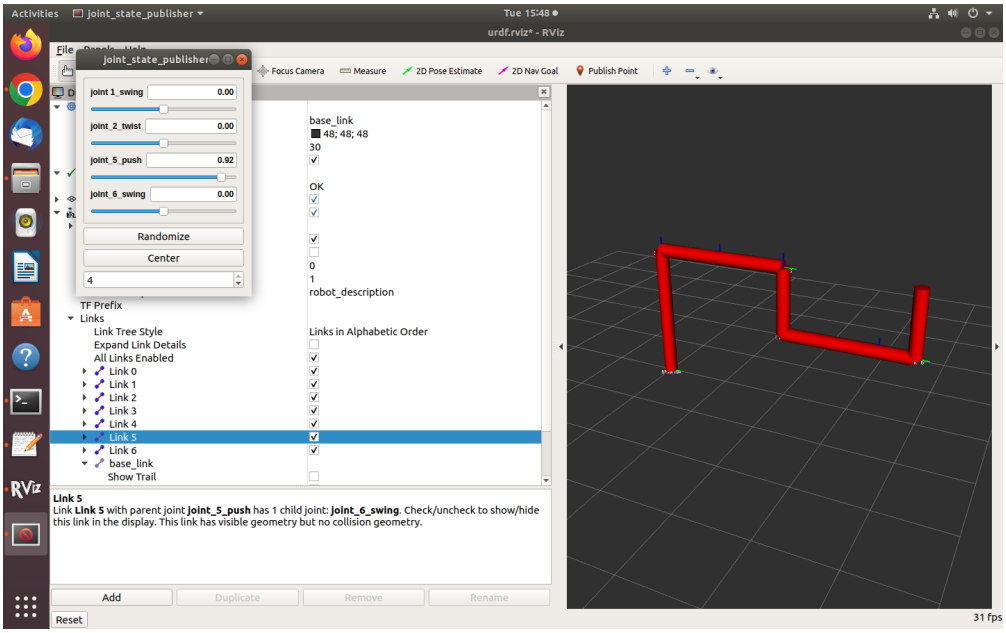
The Simulated Robotic Arm lab of ROS provides practical experience in working with robotic arms using the ROS framework. This lab covers creating a simulated robotic arm, controlling its movement using different algorithms, and visualizing data using ROS tools. The goal of this lab is to provide students with hands-on experience in developing ROS-based robotic arm systems.

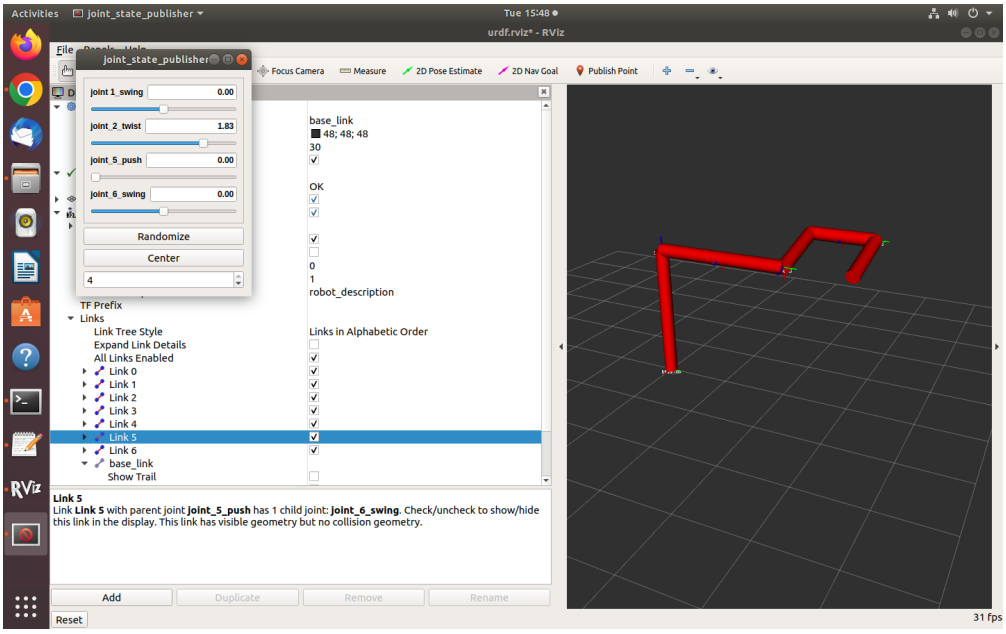
3 Results

Here are the screenshots showcasing the results of the process of the Simulated Robotic Arm lab, where the student learned how to create a simulated robotic arm, control its movement using different algorithms and visualize data using ROS tools.






Activities
joint_state_publisher
Tue 15:48
urdf.rviz* - RViz
File
Focus Camera
Measure
2D Pose Estimate
2D Nav Goal
Publish Point
joint_state_publisher
joint 1_swing 0.00
joint_2_twist 0.00
joint_5_push 0.92
joint_6_swing 0.00
Randomize
Center
4
base_link
48; 48; 48
30
OK
0
1
robot_description
TF Prefix
Links
Link Tree Style
Links in Alphabetic Order
Expand Link Details
All Links Enabled
Link 0
Link 1
Link 2
Link 3
Link 4
Link 5
Link 6
base_link
Show Trail
Link 5
Link Link 5 with parent joint joint_5_push has 1 child joint: joint_6_swing. Check/uncheck to show/hide this link in the display. This link has visible geometry but no collision geometry.
Add
Duplicate
Remove
Rename
Reset
31 fps


Activities
joint_state_publisher
Tue 15:48
urdf.rviz* - RViz
File
Focus Camera
Measure
2D Pose Estimate
2D Nav Goal
Publish Point
joint_state_publisher
joint 1_swing 0.00
joint_2_twist 1.83
joint_5_push 0.00
joint_6_swing 0.00
Randomize
Center
4
base_link
48; 48; 48
30
OK
0
1
robot_description
TF Prefix
Links
Link Tree Style
Links in Alphabetic Order
Expand Link Details
All Links Enabled
Link 0
Link 1
Link 2
Link 3
Link 4
Link 5
Link 6
base_link
Show Trail
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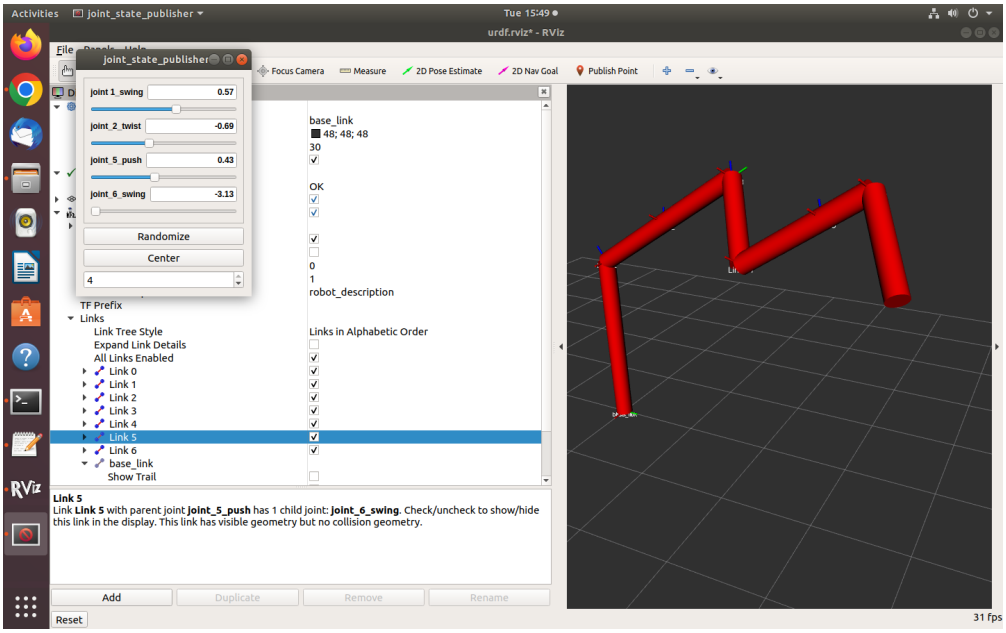

4 Conclusion

The Simulated Robotic Arm lab of ROS provides practical knowledge in working with ROS-based robotic arm systems. This lab is essential for students who are interested in developing robotic arm systems using the ROS framework.