

IN3140 – Introduction to Robot Operating System (ROS): Part II

Adrian Anderson Bergflødt

adrianbe@uio.no

Spring 2024

Recap of previous lecture

- What is ROS
- Concepts: Nodes, Topics, Messages, Services, roscore (ROS Master)
- ROS Tools: rqt_plot, rqt_graph, rosbag, RVIZ
- Capabilities: RVIZ
- Integrating: RVIZ, Gazebo and moveit in simulation

Plan for this lecture

- Introducing TIAGo
- Using ROS with Tiago
 - Creating a workspace
 - Creating a package
 - Using a premade package
 - Using RVIZ and moveit on Tiago
 - Etc

Tiago

- Differential drive mobile robot
- 7 Dof
- Lidar
- RGB-D camera
- Ultrasound sensors
- Stereo microphones
- Currently runs ROS melodic



Transitioning from Simulation to real robot

- Rosmaster/roscore is already running on TiaGo's internal computer
- The development computer should be connected to TiaGo's embedded computer:
 - `export ROS_MASTER_URI=http://tiago-135c:11311`
 - `export ROS_IP=insert your ip here`

Let's try to make a system

- Make tiago touch a aruco marker (id 584)
 - <https://aruco-gen.netlify.app/>

