Introduction to Robotics

CSCI/ATRI 4530/6530

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08/20/2018

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A quick recap
• Basic wheel types?
• What are typical wheel constraints
• How can you classify a mobile robot platform?
ROS - Introduction

- What is ROS?
- How does your program communicate within ROS system?
- What is a ROS node?
- What is a ROS package?
- What is a ROS workspace?
- What is the first thing you do when using ROS system?
- Installation of VirtualBox + ROS virtual machine?
ROS Practicum
Create a ROS workspace

```
mkdir -p ~/catkin_ws/src
cd ~/catkin_ws
catkin_make
```

Add the workspace to the ROS system (path)

```
sudo gedit ~/.bashrc (add the below command at the end)
source ~/catkin_ws/devel/setup.bash
```

Create a ROS package and build the workspace again

```
cd ~/catkin_ws/src
catkin_create_pkg example_pkg roscpp rospy std_msgs
cd ~/catkin_ws
catkin_make
```
• Create another ROS workspace
• Create a ROS package inside the new workspace and build the new workspace again
• Go through the ROS Tutorial 2 Navigating the ROS System
• If curious, go through the tutorials on understanding ROS nodes and topics
For the next class
• Wheeled robot kinematics - continued
• Probability theory basics