Introduction to Robotics

CSCI/ATRI 4530/6530

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08/21/2018

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A quick recap
Create a ROS workspace

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

Add the workspace to the ROS system (path)

```bash
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

```bash
cd ~/catkin_ws/src
catkin_create_pkg example_pkg roscpp rospy std_msgs
cd ~/catkin_ws
catkin_make
```
ROS - Homework

- Create another ROS workspace
• Create another ROS workspace
• Create a ROS package inside the new workspace and build the new workspace again
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• Go through the ROS Tutorial 2 Navigating the ROS System
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• If curious, go through the tutorials on understanding ROS nodes and topics
Announcements
Next class - Thursday 08/23/2018

- Monday 27th - Guest Lecture by Prof. Prashant Doshi (Sensors model - Rangefinders)
- Announcement of Assignment 1 - 09/03 Monday (Holiday - no class)
- Deadline for Assignment 1 - 09/10 (noon)
- Course schedule (tentative) uploaded in the #schedule channel of slack and eLC.
For next class
Next class - Thursday 08/23/2018

• Probability theory basics
For today - Kinematics
Kinematics - Basics

- Kinematics - motion of points/bodies (geometry)
- Dynamics - motion with consideration of causes (temporal and spatial changes of motion)
- Types of motion:
  - Translational motion (x, y, z)
  - Rotational motion (θ)
  - Combination of both
- Coordinate transformation - inertial/world (non-moving), body-fixed (moving)
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See the attached slides from EdX