

AI & Robotics

Navigating the ROS Filesystem

Goals

The **junior-colleague**

- can navigate a ROS system



ROS File System

- Installed under: /opt/ros/melodic

```
$ ls /opt/ros/melodic/
```

```
bin      etc      lib      setup.sh  setup.zsh  
env.sh   include  setup.bash  _setup_util.py  share
```

- A ton of packages (share)
- Extra packages in own workspace(s)
- Difficult to navigate with standard Unix tools
- ROS helps with own tools

Filesystem Concepts

- Package
 - Software organization unit of ROS code
 - Libraries, executables, scripts, or other artifacts
- Manifest (`package.xml`)
 - Description of a package
 - Dependencies & meta-information

rospack

```
$ # rospack find [package_name]  
$ rospack find rospy  
/opt/ros/melodic/share/rospy
```

- ROS package management tool
- `rospack find`: Returns absolute path to a package
- Information:
<http://docs.ros.org/independent/api/rospkg/html/rospack.html>

roscd

```
$ # roscd [locationname[/subdir]]  
$ roscd rospy  
$ pwd  
/opt/ros/melodic/share/rospy
```

- Change to package directory
- Part of rosbash (<http://wiki.ros.org/rosbash>)
- Searches in: ROS_PACKAGE_PATH
(http://wiki.ros.org/ROS/EnvironmentVariables#ROS_PACKAGE_PATH)

roscd log

```
$ roscd log
No active roscore
bash: cd: /home/user/.ros/log: No such file or directory
$ # Start "roscore" in another terminal...
$ roscd log
user@basestation:~/ .ros/log/2a1e4538-5626-11e4-851f-00cb0c$
```

- Go to log-files directory
- Active roscore: To active log directory
- No active roscore: ~/.ros/log/

rosls

```
$ # rosls [locationname[/subdir]]  
$ rosls rospy  
cmake package.xml rosbUILD  
$
```

- ls by package name
- Part of rosbash (<http://wiki.ros.org/rosbash>)

Review

ROS Command	Bash Command
<code>rospack find [package_name]</code>	<code>find</code>
<code>roscd [locationname[/subdir]]</code>	<code>cd</code>
<code>rosls [locationname[/subdir]]</code>	<code>ls</code>

