“Robot Operating System (ROS): Core and Advanced Topics”

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Abstract: The advent of ROS, the Robot Operating System, has finally made it possible to implement and use state-of-the-art navigation and manipulation algorithms on widely-available, inexpensive standard robot platforms. With the addition of the Rosbridge application programming interface, interface designers and applications programmers can create robot interfaces and behaviors on any platform, using any development environment. This tutorial introduces Rosbridge, and shows how quickly and easily it can be used to design and conduct robotics experiments, access algorithms for autonomous robot behavior, and leverage the huge ecosystem of general-purpose web-based and application-oriented software engineering for robotics. Tutorial attendees will learn the basics of interacting with ROS robots over Rosbridge, developing controllers for autonomous navigation and manipulation, and building interfaces for networked interaction with robots.

Bio: Christopher Crick is a postdoctoral research associate at Brown University. He has contributed ROS drivers for visual recognition and the AR Drone flying robot, as well as Rosbridge support for multi-robot systems. He has also developed and published Rosbridge-based HRI studies in human perception and robot learning.

Graylin Jay is a researcher at Brown University and developer specializing in language tools. He is the lead developer for the base Rosbridge framework.