Abstract

"Using the Robot Operating System (ROS) To Operate the Calliope2SP"

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Using robots for real-world applications in the future is the outcome of research today. Therefore, considering the significance of research, the need to attract new roboticists is important. Implementations of innovative robotic technologies result in new solutions for evolving needs from service to defense, and because developing software is complex, undergraduates interested in robotics are sometimes afraid or intimidated to major in computer science. The purpose of this research is to show the advantage of using ROS compared to other robot platforms, and to provide a starting point, which includes the code for operating the Calliope2SP robot. The Calliope2SP robot has the ability to move, grasp, lift, turn, see, and talk, which makes it a good robot to use whether learning at home, in a classroom, or in robotic competitions. Three robot platforms were compared to the Robot Operating System and a tutorial, calliope2sptutorial.weebly.com, was built to provide a tool to operate the Calliope2SP in ROS. The tutorial offers the configuration and errors of building the Calliope2SP robot in the Robot Operating System. Sparking the interest by operating the Calliope2SP in ROS, may increase the computer science novice's aspiration to learn multifaceted applications within software development.