Abstract

The application of the cloud computing concept to robots is called Cloud Robotics. It is a
Cloud Robotics using ROS

concept that utilizes the services of the cloud so that robots can have learning abilities. Since applications for Cloud Robotics have to be developed in a platform, majority of the cloud application developers choose ROS for it. Robot Operating System (ROS) is an open source middleware that has a collection of inter-programming language headers to allow the sharing of data between independent programs. ROS provides a graph-like structure for cloud robotics. A new library for ROS that is a pure Java implementation, called rosjava, allows Android applications to be developed for robots. Since Android has a booming market and billion users, it would be a huge leap in the field of Cloud Robotics.

References

- Aaron Staranowicz, Gian Luca Mariottini, "A survey and comparison of commercial & open-source robotic simulator software."
- Ayssam Elkady and Tarek Sobh, "Robotics Middleware: A comprehensive literature survey and attribute-based bibliography."
- Jit Ray Choudhary, "ROS: Robot Operating System."
- Jonathan Bohren, "Introduction to ROS distribution, build system and infrastructure."
- Jürgen Hess, Felix Endres, Armin Hornung, Bastian Steder, and Jürgen Storm, "ROS: Open Source Robot Operating system."
- Parker James Conroy, "The Development Of An Aerial Robotics Laboratory Highlighting The First Experimental Validation Of Optimal Reciprocal Collision Avoidance."
- Priyanki Jayantilal Vashi, "Cloud Robotics: An emerging research discipline."
- Victor Chang, Robert John Walters, Gary Wills, "Review of Cloud Computing and Existing Frameworks for Cloud Adoption."

Index Terms

Computer Science

Cloud Robotics

Keywords

Cloud Computing (cc)  Cloud Robotics (cr)  Personal Robot (pr)  Robot Operating System (ros)