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;"
  - A. Bargar, "A comprehensive ROS interface for the Aldebaran NAO;" August 2012.
  - 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;"
  - 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;"
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- Zhihui Du, Weiqiang Yang, Yinong Chen, Xin Sun, Xiaoying Wang, Chen Xu, "Design of a Robot Cloud Center." 

Index Terms

Computer Science

Cloud Robotics

Keywords

Cloud Computing (cc) Cloud Robotics (cr) Personal Robot (pr) 2 Robot Operating System (ros)