Android Robotics
- Understanding humans by building robots -

Abstract
The simple idea to just develop humanlike robots provides the series of fundamental issues. If we consider developing robots that interact with humans for giving services in daily situations, the humanlike appearance will be critical issue. And then, the humanlike appearance requires humanlike movements. Further, the humanlike appearance and movements require humanlike perception, too. For such the humanlike robot, people expect to talk human-likely. For developing the humanlike robot, we need to study the humanlike mechanisms for controlling the complicated robots. Thus, the simple purpose generates the fundamental issue successively.
Another important aspect of this approach is that the fundamental issue needs cross-interdisciplinary studies among robotics, cognitive science and biology. It also generates a series of interdisciplinary studies. We call this new approach in robotics android robotics. The development of the androids requires contributions from both Robotics and Cognitive Science. In order to realize a more humanlike android, knowledge from human science is necessary. Thus, android robotics is an interdisciplinary framework between engineering and cognitive science. Robotics attempts to build very humanlike robots based on the knowledge from cognitive science. Cognitive science employs the robot for verifying hypotheses for understanding humans.
In this talk, we discuss the fundamental issues with the developed androids.

Curriculum Vitae

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He received D.Eng. degree from Osaka University in 1991. In 1991, he started working as a research assistant of Department of Electrical Engineering and Computer Science, Yamanashi University. Then, he moved to Department of Systems Engineering, Osaka University, Japan, as a research assistant in 1992. In 1994, he was an associate professor of Department of Information Science, Kyoto University, Japan, and started research of distributed vision using omnidirectional cameras. From 1998 to 1999, he worked in Department of Electrical and Computer Engineering, University of California, San Diego, as a visiting scholar. From 1999, he is a visiting researcher in ATR Media Information Science Laboratories and he has developed interactive humanoid robots, Robovie. In 2000, he moved to Department of Computer and Communication Sciences, Wakayama University, as an associate professor and then he became a professor in 2001. Now he is a professor of Department of Adaptive Machine Systems, Osaka University, and a group leader of ATR Intelligent Robotics and Communication laboratories. His current interests are interactive robots, android robots and perceptual information infrastructure.