We would like to invite you to the following talk:

Transferring grasping skills from humans to robots

Brian Moore, Ph.D.

Wednesday May 25 2011, 12:00-13:00 ICT Building, Seminar Room 1

Abstract

We have recently proposed a framework for robot skill synthesis that exploits human sensorimotor learning capability. The idea is to consider the target robot platform as a tool that is intuitively controlled by a human. Once the robot can be effortlessly controlled, the successful execution of a task by the human via the robot provides learning data points that are used for designing controllers that operate autonomously. In the experiments, the operator directly controls the (simulated) robot using visual feedback to achieve robust grasping with the robot. The data collected is then analyzed for inferring the grasping strategy discovered by the human operator. Finally a method to generalize grasping actions using the collected data is presented, which allows the robot to autonomously generate grasping actions for different orientations of the target object. This work is a joint work with Erhan Oztop from ATR, Japan.

Short bio

Between 2000 and 2003, Brian Moore has been working on the modeling, simulation and validation of space robots at the Canadian Space Agency. After being consultant for two years in the automotive industry in southern Germany, he earned his Ph.D. in 2009 from the Johannes Kepler University working on the design of dynamically balanced linkages. During this period, he was a member of the Research Institute for Symbolic Computation (RISC) and a research scientist at the Radon Institute for Computational and Applied Mathematics (RICAM) of the Austrian Academy of Sciences. He then spent over a year as a JSPS postdoctoral fellow at the ATR Cognitive Mechanisms Laboratories in Japan working mainly on human-like robot grasping in collaboration with Erhan Oztop. He is now a researcher in the robotic lab at Laval University in Québec, Canada.

See http://www.moorebrian.com/ for more.

Please register, so we have an overview for organization purposes.

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- will participate

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