Assistive Humanoid Robots

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Abstract

The aim of my group is to create safe, human- and environment-friendly autonomous humanoid robots that can understand human actions within a human-made environment and support humans in their daily tasks. The key robot skills being developed include walking, stabilization, audiovisual recognition, paired arm coordination, tool manipulation, full-body movement, reversion to standing position after a fall, full-body sensing, a muscle tendon-like driving system, and full-body dynamic movement.

This talk will introduce the history and ongoing research and development activities in humanoid robotics at the JSK Robotics Lab at the University of Tokyo (http://www.jsk.t.u-tokyo.ac.jp/research.html). Topics covered will include robot hand-eye coordination; vision-based robotics; the remote-brained approach; whole-body behaviours of humanoids; robot sensor suits; musculoskeletal spines humanoids; powered systems for human-perfomance humanoids; learning and assistive activities of the HRP2 and PR2 robots, and the development of infrastructure such as the common software architecture for all robots in JSK.

More information: http://www.jsk.t.u-tokyo.ac.jp/research.html

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