Submitted to ICDL 2005
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"**From Unknown Sensors and Actuators to Visually Guided Movement**"

Abstract

This paper describes a developmental system implemented on a real robot that learns a model of its own sensory and actuator apparatuses. There is no innate knowledge regarding the modality or representation of the sensoric input and the actuators, and the system relies on generic properties of the robot's world such as piecewise smooth effects of movement on sensory changes. The robot develops the model of its sensorimotor system by rst performing random movements to create an informational map of the sensors. Using this map the robot then learns what effects the different possible actions have on the sensors. After this developmental process the robot can perform simple motion tracking.