

# From Unknown Sensors and Actuators to Actions Grounded in Sensorimotor Perceptions

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This article describes a developmental system based on information theory implemented on a real robot that learns a model of its own sensory and actuator apparatus. There is no innate knowledge regarding the modalities or representation of the sensory 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 first 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 basic visually guided movement.