

Marocco D., Cangelosi A., Belpaeme T. & Fischer K. (in press). Grounding action words in the sensory-motor interaction with the world: Experiments with the iCub humanoid robot. *Frontiers in Neurorobotics*.

This paper presents a cognitive robotics model for the study of the embodied representation of action words. The present research will present how an iCub humanoid robot can learn the meaning of action words (i.e. words that represent dynamical events that happen in time) by physically acting on the environment and linking the effects of its own actions with the behaviour observed on the objects before and after the action. The control system of the robot is an artificial neural network trained to manipulate an object through a Back-Propagation Through Time algorithm. We will show that in the presented model the grounding of action words relies directly to the way in which an agent interacts with the environment and manipulates it.