

# Learning to Kick by Imitation

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Manual programming of robots for a particular task such as kicking requires many efforts. Any small change in the task such as a change in the speed of the kick requires to start afresh. Learning by imitation has brought a new ground on programming robots in this context. The method allows to generalize target action which is performed by human demonstrator. In this way, the robot can learn how to kick by observing different kick motions.



Figure 1: Nao robot imitates the demonstrator

In this challenge, we aim to teach Nao how to kick a ball using learning by imitation methods. The demonstrator will show kicking motion and the robot will imitate at the same time. We will use a Kinect sensor and an external processing unit to process the motion of the demonstrator. The processed motion is executed on the robot in real time as seen in Figure 1.