

# Teaching Multiple Robots by a Human

A service system composed of small robots which are able to do tasks executed by a single human in environments like homes or offices. The goal is that a user will be capable of teaching multiple small robots how to perform tasks. We use kinematic data during the teaching process like the motion and force applied by the hands of the subject during task execution. Based on the analysis of the data generated versus the physical capabilities of the robots, the system determines how many robots will execute the task and how to split it into subtasks for each robot.

Figure 1 shows the teaching process for an unfolding chair task. First (Fig. 1(a)) in a sequence of images it is shown how a single human performs the opening of the chair which is initially lying on the floor. Then, the teaching data generated during the demonstration is shown (Fig. 1(b)). Finally, it is shown (Fig. 1(c)) how the information will be used to decide the number of robots and their programming among which to divide the work.

## Reference

FIGUEROA, Jorge, SAHLOUL, Hamdi, OTA, Jun, "Teaching Multiple Robots by a Human - Teaching Data Generation -", IEEE international conference on Robotics and Biomimetic (ROBIO), 2014, pages 2121 – 2126, Bali, Indonesia.

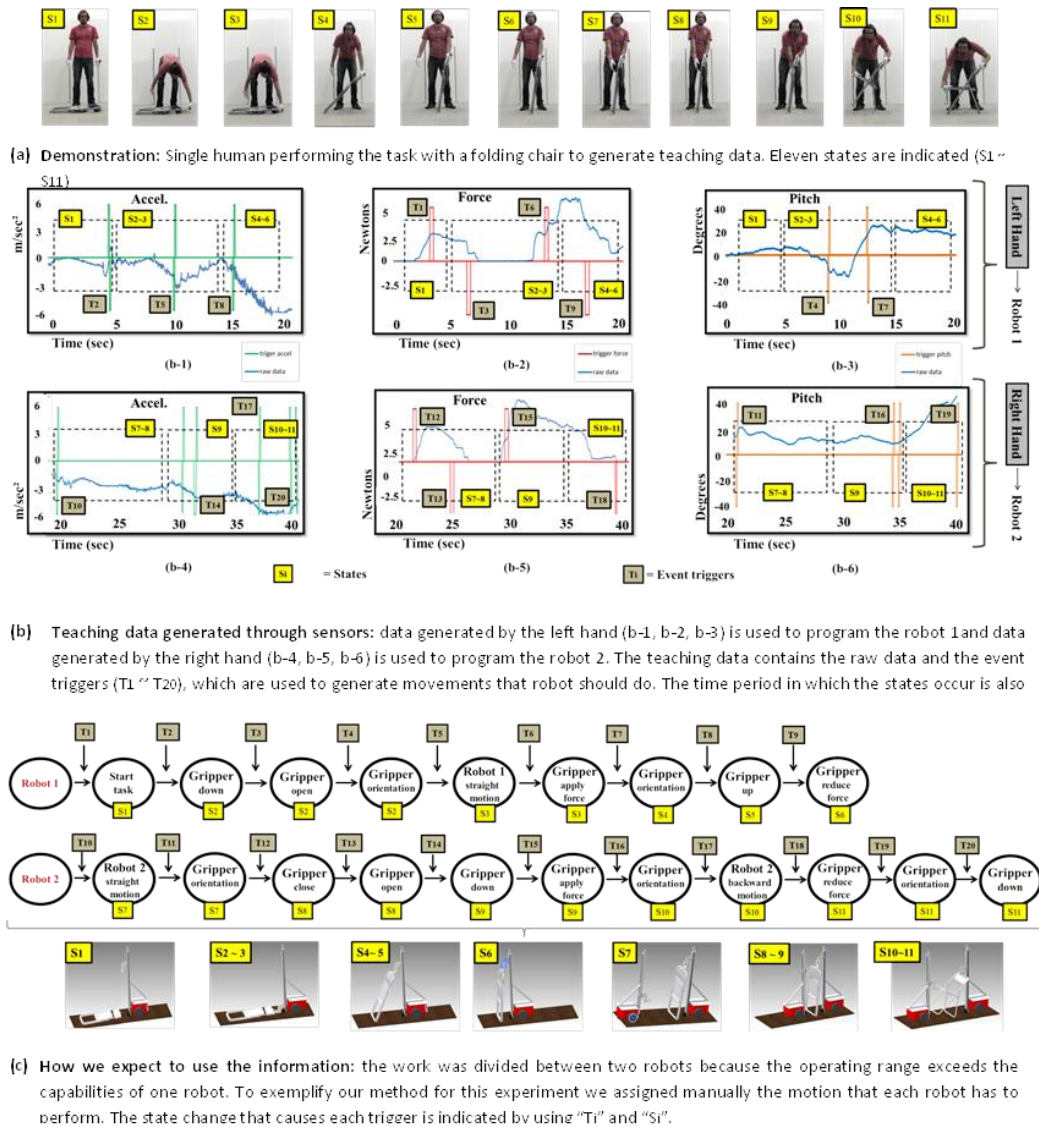


Fig. 1. Experiment: Teaching multiple robots how to open a folding chair by a single human.