

Roy Someshwar 31.10.16

Bio

Roy Someshwar received his Double Masters in Mechatronics and Micro-Mechatronics Systems from Hochschule Karlsruhe, Germany and Universidad de Oviedo, Spain. He had a brief stint in the R&D of a Spanish robotics company, Treelogic s.a.r.l. working on the development of a mobile robotic platform.

Subsequently, he worked as a Marie Curie Fellow in the Intelligent Systems Group of the Department of Industrial Engineering and Management under Prof. Yael Edan and Prof. Joachim Meyer at the Ben-Gurion University of the Negev, as part of an EU-FP7-ITN project INTRO (Interactive Robotics). His doctoral dissertation revolves around human-robot collaboration and temporal coordination in human-robot teams.

Abstract

Robots are still primarily kept and operated in safety cages and separated from human operators. The current trend in industrial automation to integrate robots in our workplace as partners, co-workers and peers provide many promises and challenges. One of the key challenges in these collaborative systems is *temporal coordination* among the human and the robot working as team-partners.

The talk revolves around the development and investigation of the different aspects of temporal coordination among a collaborating human and a robot working in a team sharing work- and time-space for a collaborative handover task. The study employed a bottom-up approach, combining behavioral research and quantitative models to determine the effective coordination strategy for human-robot collaboration with better team-coordination and improved system productivity.

Studies on human-human joint-action will be presented. Human-Robot collaboration models developed as an outcome of this study will also be presented together with its evaluation through experimental studies done in real-world conditions in an integrated human-robot collaborative work-cell.