WWTF Project NXT19-005

Human Tutoring of Robots in Industry

Abstract

The project "Human Tutoring of Robots in Industry" will investigate requirements from industrial companies to augment their robots with artificial intelligence for efficient human-robot interaction. We will research possibilities to adapt an artificial system that learns new actions and objects through observation and their natural language descriptions by a human tutor to the industrial context. A human-robot collaboration with a system that is able to learn new tasks similar to an apprentice has high potential for companies to increase performance and reduce costs. To enable successful worker-robot interaction, however, it is necessary to research factors influencing workers well-being, perception of control etc. In the project, we will build on results from the ongoing project RALLI on robot action and word learning through observation and natural language descriptions. The developed system will serve as basis in focus groups and/or interviews with managers and workers from our industrial partner voestalpine to develop a blueprint for a version of our system adapted for worker-robot interaction. Partial results will then be implemented. In addition, we will actively address companies targeting close worker-robot interaction for future collaboration. The proposed project will allow researchers at OFAI to transfer their acquired knowledge on human-robot interaction to the field of industrial robotics and thus has large economic and societal potential by making the production process more efficient and humanizing the collaboration between man and machine.

Keywords:

human-robot interaction, industrial applications

Principal Investigator:	Stephanie Gross
Institution:	Austrian Research Institute for Artificial Intelligence (OFAI)

Status: Completed (01.10.2019 - 31.07.2021) 22 months

Funding volume: EUR 47,560

Further links about the involved persons and regarding the project you can find at

https://archiv.wwtf.at/programmes/new_exciting_transfer_projects/NXT19-005