

Exploring the Potential of Mobile Robot Interaction – Approaches for More Efficiency and/or Safety (EN)

Starting Point and Goal

In modern industrial facilities, mobile robots increasingly share workspace with human employees. Despite this coexistence, interactions between humans and robots have not yet reached the efficiency and safety levels possible in human-to-human encounters. Scientific research is exploring various approaches to improve these interactions, including human-aware navigation and explicit communication strategies (see right). The goal of this thesis is to conduct a comprehensive literature review and analysis to provide a systematic overview of existing scientific approaches aimed at enhancing the efficiency and/or safety of interactions with mobile robots.

Possible Tasks

- Research into various approaches (optional also from related fields)
- Systematic analysis of studies and observed effects
 - + evaluation and assessment
- Structured overview of research findings
- Identification of the most promising approaches

Requirements:

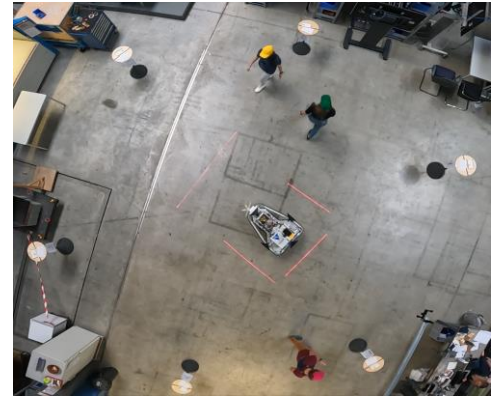
Independent and structured working style
Very good command of (German and) English

Advantageous:

Interest in Human-Robot Interaction
Enjoyment of scientific research & literature work

Can start from:

Now (Published on 15.04.25)



Exemplary study investigating the effect of a communication tool (projecting the safety area)

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