Hiwi-Job

Development and Evaluation of methods to enhance mobile robots with collaborative capabilities

Field: The research is being conducted as part of the CRC (CRC 1574 – Circular Factory)

Problem Statement: Mobile robots are essential for automation in production and logistics, but they represent a significant investment. To maximize returns, research is needed into how the core function of transporting individual goods can be expanded. One focus is on how multiple robots can cooperatively move large and irregularly shaped loads temporarily. Collaboration with other intralogistics components, such as cranes, is also being investigated.

Task: Many aspects play a role in the realization of collaborative capabilities. Communication between the participants, path planning, but also control are challenges. In order to work in a scientifically sound manner, planning and conducting experiments also plays a major role. We therefore work together to develop the exact task. Both analytical methods and machine learning methods can be used.

Offered: Our mobile robotics laboratory is available for all tests and methods. In addition to state-of-the-art tracking sensor technology, it offers enough space to carry out further-reaching experiments. Various mobile robots with different drive types are also available. There is also a wide range of sensors for perceiving the environment, such as cameras, LiDAR, etc.

Required Skills:
- Programming skills in one or more languages (Python, C++, etc.)
- Independent and committed way of working
- Motivation to familiarize yourself with new topics
- Good knowledge of German and/or English

Research Group:
Mechatronic Systems and Components

Type:
Experimental, Theoretical

Majors:
Mechanical Engineering, Mechatronics, Computer Science, Industrial Engineering, Electrical Engineering

Start Date:
immediately

Language:
German/ English

Publication Date:
26.02.2025

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Please send your **application** by e-mail with brief information about your relevant experience and interests, a current transcript of records and your CV to
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