Hiwi-Offering: ROS Library Developer and Mainainer for Modular Robots

Background

Modular industrial robots have great potential to optimize industrial automation: Modular concepts (as presented in [1]) allow the user to optimally adapt the physical structure of a robot to its task requirements. Furthermore, modular robots can be configured to solve tasks, which no standard kinematic can solve. Modular robots can also be adapted to changing task requirements. The Robot Operating System (ROS) is one of the most widely used frameworks in robotics. Together with our practical course (Building a Modular Robot) we’re building a library of various ROS components for our chair’s modular robot (see figure 1).

This HiWi-position is offered together with the chair’s spin-off FlexMate, which works on bringing modular robots to the market.

Description

In our practical course, various ROS packages are being developed (path planning, collision avoidance, simulation, computer vision, etc.). These packages are [planned to become] contributions to our modular robotics open source project. Your task will be to:

- Maintain the public Git repositories (versioning, merging, issue tracking).
- Develop and maintain a structural concept of ROS topics for communication.
- Review, extend, and improve existing components and their documentation.
- Develop further ROS components.
- Test ROS components with the modular robot.

We are looking for highly motivated students with experience in ROS and Git. We expect you to work independently throughout the semester and responsibly maintain the project repositories.

Start: immediately
Hours: at least 7 h per week
Salary: HiWi (11.50 € w/o Bachelor, 13.40 € w/ Bachelor)

References