Masters Thesis: Robot Control for Modular Industrial Robots

The thesis is offered in cooperation with the chair of Robotics, Artificial Intelligence and Real Time Systems, professorship for Cyber Physical Systems of Prof. Dr.-Ing. Matthias Althoff.

YOUR MISSION

You’ll be developing, implementing and verifying a robot controller for modular industrial robots. You will analyze several relevant control strategies and components for their effectiveness and evaluate their feasibility for future use. You will be a part of the engineering team and work on the forefront of robotics, with your own tasks and responsibilities. Parts of your work may include the following:

- Analysis of modular industrial robots,
- Identification of core improvement possibilities for the robot controller,
- Implementation of several control strategies, e.g. inclusion of torque estimation, friction observer, elastic joint control, feed-forward pre-control,
- Comparison of different control strategies for different robot states,
- Implementation of advanced sensor filtering techniques.

YOUR PROFILE

- You’re studying at TUM with a focus on computer science, mechatronics, or electrical engineering.
- You have worked with robotics, control theory, model building before.
- You know C++ and Python really well.
- You want to gain real world experience during your masters thesis.
- You love to take responsibility.
- You’re not scared of screws and bolts.

Please apply at https://robco.jobs.personio.de/job/1380095

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