

Raphael Stöckner

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Summary

Recent graduate with detailed knowledge across all robotics domains, and specialized expertise in modelling and control of nonlinear systems. Skilled at combining both domain-specific practical perspectives and theoretical results into one pragmatic solution even in complex applications.

Education

MSc. Systems, Control and Robotics - *KTH Royal Institute of Technology, Stockholm* Aug 2022 - Oct 2024

- GPA: 4.56/5.0

BSc. Mechatronics and Information Technology - *Karlsruhe Institute of Technology (KIT)* Oct 2018 - Apr 2022

- GPA: 4.75/5.0

Professional Experience

Conference Paper - *64th IEEE Conference on Decision and Control* Under Review for Dec 2025

- Title: Fault-tolerant Model Predictive Control for Space Robotics Systems
- Safety-guarantees for thruster-based spacecrafts in presence of multiple complete actuator failures

Research Engineer - *Decision and Control Systems (DCS) at KTH* Nov 2024 - present

- Maintaining of lab infrastructure at KTH Smart Mobility Lab
- Troubleshooting of hard- and software, lab network

Research Assistant - *Robotics, Perception and Learning (RPL) at KTH* Mar 2023 - Dec 2023

- Software/ROS integration of autonomous drone despite sparse documentation
- Hardware development: Autonomous robot with lidar, stereo camera and robotic arm for project course DD2419 at KTH

Half-Year Internship - *Physik Instrumente (PI), Karlsruhe* Apr 2021 - Sept 2021

- Selected and implemented Subspace identification algorithms for MIMO systems in closed-loop operation
- Tested and validated the developed algorithms, providing insights for future research direction

Tutor - *Institute for Engineering Mechanics at KIT* Oct 2019 - Mar 2021

- Tutor for Engineering Mechanics I & II
- Created teaching material and lecture quizzes

Skills and Competences

Technical skills: Autonomous systems - Mechatronics - Control theory - Systems modeling

Professional skills: Interdisciplinary view - Creative thinking - Responsible - Clear explainer

Proficient: Python, Matlab/Simulink

Advanced: C++, Maple, Git, ROS, Linux

Basics: Java, C#

Languages: German (native), English (C1), Swedish (B2-C1), French (B2)

Community Service

- Treasurer & Secretary of student choir Osqstämman at KTH (2023, 2024)
- Federal voluntary service at the city of Bruchsal, department for social affairs (Sept 2017 - Aug 2018)
- Scout leader at Pfadfinderstamm Greif e.V. Bruchsal (2015 - 2020)

Personal Achievements

- Finisher Vätternrundan 2024, cycled from Germany to Greece (summer 2022)
- 3rd prizes (percussion ensemble, 2018 and mallets solo, 2019) at the nation-wide finals of the music competition "Jugend Musiziert" in Germany