Markus Heimerl

Embedded Systems Engineer

Contact

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- ⏻ markusheimerl

Technical Skills

Programming
C, Python, HDLs

Architectures
ARM, RISC-V

Signal Processing
State Space Model, Kalman Filter

Hardware
PCB, FPGA

Protocols
SPI, CAN, ETH, TCP/IP

Languages

German
Native Speaker

English
C1 Level (TOEFL iBT 105/120)

Courses

Biomolecules and Cell
University of Tübingen (2023)

Data Literacy
University of Tübingen (2023)

Advanced Parallel Computing
University of Hagen (2024)

Professional Summary

Embedded Systems Engineer with strong background in signal processing, bare-metal firmware development, and hardware-software co-design.

Professional Experience

Software Developer — May 2024 - Present
intive GmbH, Regensburg

- Developing a diagnostic and visualization tool for electronic control unit networks
- Leading refactoring effort to improve performance and maintainability

Software Development Engineer — Jul 2023 - Dec 2023
Vector Informatik GmbH, Regensburg
Contributed to bootloader development for microcontrollers with over-the-air capabilities

Digital Design Teaching Assistant — Mar 2022 - Sep 2022
Regensburg University of Applied Sciences
Supported students in digital design course and evaluated exercise sheets

Technical Projects

Autonomous Flight Control and Navigation System — 2021 - Present
github.com/markusheimerl/quad
Autonomous quadcopter with custom PCB, bare-metal firmware, and control model

Education

B.Sc. Computer Engineering — 2018 - 2022
Regensburg University of Applied Sciences
Embedded Systems, Signal Processing, Real-Time Control, Computer Architecture

Volunteering

Event Organizer — Mar 2019 - Aug 2019
TEDxOTHRegensburg

- Implemented online ticketing system for seamless attendee experience
- Recruited speaker and contributed to sponsorship acquisition efforts