



Felix Börs

Freelance Embedded Software Engineer

PROFILE

Specialized in safety-critical systems for regulated industries, with a core focus on medical technology. Highly skilled in real-time operating systems, low power design and regulatory standards like IEC 62304 and ISO 13485. Dedicated to building future-proof embedded solutions that drive innovation while meeting the highest safety and quality standards.

EXPERTISE

Programming: C, C++, Python, Dart

Architecture: Event-Driven, TTA, Multi-Domain, SOEA

RTOS/OS: Zephyr RTOS, FreeRTOS, (Embedded) Linux

MCUs: nRF5x, STM32, EFR32

Interfaces: UART, SPI, I²C, I³C, USB, CAN, Ethernet

Connectivity: BLE, Wi-Fi, Thread, MQTT, CoAP

Hardware: Power Profiling, PCB Design, Soldering

Tools: Jira, Awork, Enterprise Architect, Git, CMake

Methods: V-Model, Scrum, Kanban, CI/CD, TDD, HiL

Standards: ISO 13485, IEC 62304, MISRA C

RECENT WORK

Time Synchronization of Medical Sensor Nodes

Software Engineer / Deliverables-based contract

08/2025 – 10/2025 | MEDtech Ingenieur GmbH

- Designed a wireless low-power time synchronization protocol for multiple sensor nodes
- Integrated the protocol into existing customer firmware
- Ensured coexistence with other radio stacks like BLE
- Implemented degraded link-quality feedback

Keywords: ISO 13485, IEC 62304, C/C++, Python, nRF5x, Zephyr (RTOS), Hard-Realtime, MPSL, 2.4 GHz, BLE, CI/CD

Treatment Platform for Neurodegenerative Diseases

Software Lead & Software Architect

07/2024 – 07/2025 | MEDtech Ingenieur GmbH

- Designed the software architecture of a system for the detection and treatment of neurodegenerative diseases
- Led and mentored a team of three software engineers
- Performed code and process reviews
- Developed hierarchical code generation frameworks
- Implemented 80% of the system's core features

Keywords: ISO 13485, IEC 62304, C/C++, Python, nRF52x, Zephyr (RTOS), BLE, FOTA, MCUboot, TDD, CI/CD

CONTACT

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📍 Rostock, Germany

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EDUCATION

○ Master of Science

Electrical Engineering

University of Rostock

(2021 – 2023)

Grade: 1.3 (excellent)

○ Bachelor of Science

Information Technology

University of Rostock

(2016 – 2021)

LANGUAGES

German, English

REFERENCES

Available upon request



Evaluation of Low-Power Motion Detection for a Medical Sensor Platform

Software Engineer & Consultant

03/2024 – 06/2024 | MEDtech Ingenieur GmbH

- Developed device drivers for a modular sensor platform used in medical applications
- Evaluated and optimized algorithms for low-power motion detection
- Designed and implemented code generators to automate repeating workflows

Keywords: C/C++, Python, nRF52x, Zephyr (RTOS), BLE, Codegeneration, Driver Development, Algorithms, HiL, CI/CD

Firmware Enhancement of a Vagus Nerve Stimulator

Software Engineer

12/2023 – 02/2024 | MEDtech Ingenieur GmbH

- Independently enhanced the device firmware to improve performance and reliability
- Improved device usability through UI and control flow optimizations
- Identified and resolved firmware bugs across multiple software modules
- Extended USB and BLE interfaces to support advanced communication and new features

Keywords: ISO 13485, IEC 62304, C/C++, STM32, EFR32, FreeRTOS, USB, BLE, FOTA, CI/CD

Prototype Development for Stroke Rehabilitation

Software Engineer

07/2023 – 11/2023 | MEDtech Ingenieur GmbH

- Developed a prototype for fast and effective post-stroke rehabilitation
- Contributed to a research project on synchronous stimulation between vagus nerve and muscle activity
- Adapted and optimized existing firmware to meet new functional requirements

Keywords: ISO 13485, IEC 62304, C/C++, STM32, FreeRTOS, USB, Algorithms, TDD, CI/CD

OPEN-SOURCE CONTRIBUTIONS

- Leviosa – Platform for mind-controlled acoustic / magnetic levitation (2025)
- NSync – Framework for wireless time synchronization on nRF5x devices (2025)
- Zephyr DevLab – Modern Zephyr RTOS workshops (2025)
- Aletea – Programmable robot to tech students / kids about sensor fusion (2023)
- Hover4Me – DIY autonomous quadcopter (2022)

FURTHER EDUCATION

- Multivariate signal processing applied to neural data (Prof. Dr. Mike Cohen, Udemy 2022)
- Neural Signal Processing: Zero to Hero (Prof. Dr. Mike Cohen, Udemy 2021)
- Machine Learning: A-Z (Kirill Eremenko, Udemy 2020)
- Linux Device Driver Programming (Kiran Nayak, Udemy 2020)
- Embedded Systems Programming on Cortex-M4 Processor (Kiran Nayak, Udemy 2020)