

Florian Hillen

Embedded Software & Hardware Engineer

Location: EU (Croatia / Germany)

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Profile

Embedded software and hardware engineer with extensive experience in C/C++, embedded Linux and low-level system development. Strong background in motion control systems and control theory, including real-time control loops and motor control. Specialized in Linux kernel development, device drivers and debugging complex hardware/software systems. Experienced with industrial communication protocols such as CAN, SPI, I2C and Ethernet.

Core Skills

- **Programming:** C, C++, Python, Java
- **Embedded:** Embedded Linux, Linux kernel modules, device drivers, U-Boot
- **Communication:** CAN, LIN, SPI, I2C, USB, Ethernet, MQTT
- **Hardware:** Digital/analog circuit design, EMC testing, board bring-up, debugging
- **Systems:** Multithreading, sockets, distributed systems

Professional Experience

- **Freelance Embedded Engineer** 2017 – 2026
- **JS Elektronik GmbH** Maintenance and development of an embedded Linux control terminal for medical systems.
- **NM Stahlgeräte GmbH** Embedded Linux software development for medical systems (Linux, MQTT, networking).
- **Mobil Elektronik GmbH** Hardware and firmware development for force-feedback steering system (Altium Designer).
- **Feig Electronic GmbH** Linux kernel adaptations, display drivers, hardware integration.
- **Delphin AG** Maintenance of Linux kernel modules, CAN and PROFIBUS integration.
- **DSA Aachen** Linux kernel driver integration (WLAN, LAN, CAN), bootloader modifications (U-Boot), device tree, power optimization (STM32, i.MX6).
- **Plexus Darmstadt** Design of motion controller for medical system (STM32 Cortex-M4), hardware design and firmware prototype. (Cadence Allegro/OrCAD)
- **Scheuerle Fahrzeugfabrik** Industrial panel PC modernization (RTAI, CAN, Qt).
- **ThyssenKrupp Rasselstein** Modernization of plant control systems, Linux system programming, distributed applications (Java, SQL, MQTT).

Previous Employment

- **Wetterauer Engineering** 2015 – 2017
Embedded software development for automotive tuning system (Cortex-M4, CAN, LIN, Qt, Verilog).
- **Heyer Medical AG** 2014 – 2015
Embedded Linux software for anesthesia ventilator systems (C, Octave/Matlab, Python).
- **JS Elektronik GmbH** 2008 – 2014
Development of embedded Linux control terminal for medical systems. Key work: CAN driver development, power electronics design, motor control systems.

Additional Technical Experience

- Hydraulic control systems
- 2D/3D CAD design (mechanical parts and assemblies)
- Welding and metal fabrication
- CNC programming
- Nautical electronics and marine systems

Education

- Electrical Engineering
- FH Bonn-Rhein-Sieg / FH Koblenz

Earlier Education

- State Technical School Weilburg – Mechanical Engineering
- Industrial Mechanic Apprenticeship – Winkler + Dünnebier AG