

Mazunki Hoksas

Systems Programmer and Kernel Developer

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Summary

Software developer with an interest in system's architecture, embedded software, compilers, linguistics, and philosophy.

I'm drawn to the world of free and open source software. I care about making things more accessible, open, and ensuring compliance to standards and ethics.

Work Experience

- 2022–2026 **Teacher, *Learnist*, Remote**
- Taught programming fundamentals to children and adolescents across a range of ages and levels
 - Collaborated on shared curriculum and course planning spanning multiple levels and age groups
 - Independently ran and oriented different student groups
 - Delivered tailored private lessons, adapting to both neurotypical students and students with focus or reading-comprehension difficulties
- 2025 **External Examiner, *University of Oslo***
- Provided tests for IN2140, a course on fundamentals of computing
- 2014–2022 **Maintenance and Mariner, *Marine Service A/S*, Oslo**
- Worked on maintenance of boats, ferries, and cargo ships
- 2016–2022 **Ferry Sailor, *Oslo-Fergene AS*, Oslo**
- Assisted the captain and passengers aboard a local ferry

Education

- 2024–present **MSc Programming and Systems Architecture, *University of Oslo***
- I am working on efficient, performant and safe memory management within the context of IncludeOS, a minimal unikernel for microservices and cloud usage.
 - This includes interaction with VirtIO, QEMU and low-level hardware interactions.
 - My work on this also makes use of flakes for reproducible builds.
 - Besides my thesis, I have taken several courses in networking and fundamentals of programming languages and compilers.
 - Optimized a YUV video codec (codec63) in C/C++ using CUDA, SIMD, and PCIe data transfer for heterogeneous multi-core architectures
- Grad. 2025 **BA Philosophy, *University of Oslo***
- Focusing on both theoretical and applied ethics
 - With a minor in Linguistics
- Grad. 2023 **BSc Informatics: Robotics and Intelligent Systems, *University of Oslo***
- 2018–2019 **Applied Data Science, *Noroff Education***

Projects

- Custom System Services
- I build and maintain up my own set of system services using the s6-rc and execline system. This allows me to have a better control, customizability and understanding of the systems I use on a daily basis

IncludeOS	Working on memory management for IncludeOS, a minimal unikernel for microservices and cloud usage, interfacing with VirtIO and QEMU at a low level. Part of my ongoing MSc thesis.
Operating System	As part of an assignment for a course on kernel building, we built a simple operating system. Throughout the course, we build different pieces over one semester. ○ Setting up a bootloader on MBR-BIOS/legacy system on the IA-32 architecture (x86). ○ Implement threading scheduling support, using non-preemptive and preemptive approaches ○ Supporting virtual memory by using external storage for swapping out pages ○ Added a basic file system to the OS similar to FAT
Open Source Contributions	147 pull/merge requests and commits across 58 projects (80+ merged), including Vim, tmux, Gentoo, IncludeOS, Waybar, wofi, and WirePlumber. Partially complete list: mazuiki.tech/contributions
TJ Bot, Home assistant	A project done for the first year of Studio at Noroff University & College by four students, using different APIs together to create a home device / bot. Built from scratch, incorporating various technologies such as Text to Speech, Speech to Text, visualisation, network communication, beyond others; and enhancing all this with a focus on security and privacy aspects

Technical skills

Languages	English (C2), Spanish (C2), Norwegian (C2) and Catalan (C1)
Programming Languages	C++ (43 merged/open PRs, incl. IncludeOS, Waybar, KeePassXC), C (17 PRs, incl. tmux, wofi, sway), Python (27 PRs), and POSIX shell scripting (19 PRs, incl. Gentoo). Also comfortable with Haskell, Java, and Zig
Development Tools	I pedantically use Git for version control; Vim for editing; tmux, kitty and Sway for multiplexing; Nix for reproducible builds and environments; and SSH for jumping between different systems
Systems and Platforms	Experienced with virtualization using QEMU, and proficient in managing Linux-based systems, particularly with non-traditional init systems like s6 instead of systemd. Familiar with the Wayland display protocol, especially wlroots. I self-host my own infrastructure, including nginx and TLS certificate management

Volunteering

2019-2020	Language Tutor, Norsk Start, Oslo I helped foreigners improve their language skills in Norwegian and in English, in order to have a better chance at their goals
2017–present	Technical support I often help newbies and more experienced people on forums and IRC-like chats track down problems with their systems, mostly Linux-related
2022–present	Package Maintainer I've been maintaining several packages on Gentoo for a while. This requires working with different build systems, requirements, and expectations

Certifications

2018	Crowd- and Crisis Management, Redningsselskapet, Oslo
2018	Reduced Safety Course for seafarers, Redningsselskapet, Oslo
2018	Boat Driver License, Sjøfartsdirektoratet