Martin Hafskjold Thoresen /mɑːrtɪn hɑːfʃɔːl tʊresen/

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Work Experience

Software Engineer Nov 2025 — Present
Cognite *Oslo, Norway*
- Work on authorization and authentication in CDF using Rust and Kotlin.

Algorithm Engineer Oct 2022 — Nov 2025
Vind AI *Oslo, Norway*
- Developed design tools and optimization algorithms for screening and design of offshore and onshore wind parks.
- Worked full-stack in our 400'000+ LoC React+TypeScript frontend, and microservices on AWS Lambda.
- Developed internal tooling for static analysis and refactoring using SWC and Rust.
- Joined as employee #4, and helped scale the company to over 20 employees.

Computer Graphics Researcher Jun 2019 — Sep 2022
Institute of Science and Technology Austria *Klosterneuburg, Austria*
- Developed interactive design tools for computational fabrication in C++ and OpenGL, and with Rust and WebGPU.
- Implemented a high-performance physics-based simulator for soft materials in C++ using `eigen`.
- Worked extensively with 3D-printing, molding, and embroidery, as well as geometry processing for model generation.

Applications Developer Intern Jun 2016 — Aug 2016
Nordic Semiconductor *Trondheim, Norway*
- Developed an `electron.js`-based app for management of Bluetooth mesh networks.

Applications Programmer Intern Jun 2015 — Aug 2015
ARM *Trondheim, Norway*
- Developed internal tools for the Media Processing Group (MPG).
- Ported a Perl script used to extract of ISA-related data from Verilog and SystemVerilog files to Python.

Projects

Technical Writing, Blog (mht.wtf/post/) Sep 2014 — Present
- Technical writing about computer science, programming, and related topics.
- Highlights: Navigate Gates (2025), Searching High and fLow (2023), Efficient Simulation through Linear Algebra (2022).

Plankton, "Algorithms as a Service" (plankton.systems) Nov 2023 — Present
- A SaaS for solving small instances of NP-complete problems in the cloud, implemented in Rust with `axum`, `sqlx`, and `htmx`.
- Implemented efficient brute-force solvers for 10+ problems, including LongestPath, VertexCover, and FeedbackVertexSet.

Computational Geometry Research, Medial Axis Explorer (medial-ax.github.io/medial-ax/) Jul 2023 — Apr 2025
- Developed a research prototype for computing generalizations of the medial axis in Rust and TypeScript with `THREE.js`.
- Co-authored the paper *"The Mid-sphere Cousin of the Medial Axis Transform"* with Herbert Edelsbrunner and Elizabeth René Stephenson, accepted at DGMM 2025 (DOI, pre-print on arXiv).

Open Source Contributor Sep 2013 — Present
- I contribute back to open source projects that I use through bug reports and code contributions.
- I have code in projects including the Rust compiler, rayon, libigl, and the Zig compiler

Education

Institute of Science and Technology Austria Sep 2018 — Sep 2022
Ph.D. Candidate, Computer Science (not completed) *Klosterneuburg, Austria*
- Topic: Computational Fabrication with applications in soft robotics.
- Advisor: Bernd Bickel

ETH Zürich Feb 2017 — Aug 2017
Exchange student, Computer Science *Zürich, Switzerland*

Norwegian University of Science and Technology Aug 2013 — Jun 2018
Master of Science, Computer Science, Specialization Algorithms and HPC *Trondheim, Norway*
- Designed a multithread-aware garbage collector for Rust, and benchmarked strategies for memory reclamation.
- Advisor: Magnus Lie Hetland.