Emil Lindfors

Senior Software Engineer | PhD Responsible Innovation

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Norway

PROFESSIONAL SUMMARY

Senior software engineer with 15+ years of experience and a PhD in responsible technological innovation. Deep domain expertise in **aquaculture data platforms**—I've built production systems integrating Fishtalk, Mercatus, IoT sensor data, and ocean models (IMR Norkyst) for major Norwegian salmon farmers. I architect robust, scalable infrastructure in Rust and Python: data pipelines, API integrations, and cloud deployment (AWS, Terraform). Recent work includes LLM integration and AI agent development. My research background brings rigor and long-term thinking to system design.

TECHNICAL SKILLS

Aquaculture: Fishtalk, Mercatus, production data integration, salmon farming domain expertise
Data Platforms: API design, ETL pipelines, system integration, real-time sensor data, ocean models (IMR Norkyst)
Cloud/DevOps: AWS (Lambda, ECS, S3, Batch), Terraform, GitHub Actions, Docker, CI/CD
Languages: Python, Rust, TypeScript, JavaScript
AI/ML: LLM integration (Claude, Azure OpenAI), agent development, prompt engineering

PROFESSIONAL EXPERIENCE

AquaCloud   *January 2025 -- Present*

Senior Software Engineer   Norway

- Architected production-grade aquaculture data platform integrating Fishtalk, Mercatus, and other industry systems
- Built data pipelines and ETL workflows for major Norwegian salmon farmers handling real-time production data
- Integrated IoT sensor data streams and ocean environmental models (IMR Norkyst) for site-level analytics
- Designed APIs for third-party integrations; enabled seamless data exchange across the salmon farming value chain
- Infrastructure as Code: Terraform for Lambda, ECS, S3, Batch; full CI/CD with GitHub Actions
- Implemented Rust core components with Python FFI for performance-critical data processing

Høgskulen på Vestlandet (HVL)   *July 2024 -- January 2025*

Software Engineer   Bergen

- Built Rust backend system integrated with Microsoft Teams for internal communication workflows
- Automated research group newsletter: weekly submission aggregation, admin approval flow, automated distribution
- Designed integrations with Microsoft ecosystem (Teams, Power Automate, email) for operational efficiency
- Contributed to university-wide technology strategy and responsible technology implementation

Høgskulen på Vestlandet (HVL)   *December 2019 -- January 2025*

PhD Researcher   Bergen

- PhD: "The Evolution of Technological Trajectories: Responsible Innovation and Regional Industrial Path Development"
- Researched salmon farming industry transformation in Norway, Australia, and USA; 92 interviews, comparative case studies
- Published 3 peer-reviewed articles (Sustainability, Marine Policy, Regional Studies) with 1 under review
- Developed frameworks for understanding how technology adoption shapes regional industrial development

Hatch   *January 2018 -- December 2019*

Norway Representative   Bergen / Netherlands

- First non-founder employee at the global aquaculture startup accelerator
- Participated in due diligence for Aqua-Spark's seed investment in Hatch

- Evaluated startups and managed dealflow across two accelerator cohorts (8 international startups)
- Contributed to investment discussions, marketing, outreach, and portfolio company support

Lindfors Foundry   *2011 -- Present*

Founder & Software Engineer   Bergen

- 14+ years building production web systems and domain-specific software solutions
- Led digitalization project for sea lice counting in salmon farming using computer vision
- Built custom data dashboards and reporting tools for aquaculture clients
- Full-stack development: React/Vue frontends, Python/Rust backends, PostgreSQL databases
- Home infrastructure: self-hosted services, IoT sensors (ESP32), home automation systems

EDUCATION

PhD, Technological Innovation — Høgskulen på Vestlandet   *2019 -- 2025*

Master, Innovation & Entrepreneurship — Bergen University College   *2017 -- 2019*

Bachelor, Sustainable Aquaculture — University of Bergen   *2014 -- 2017*

SELECTED PUBLICATIONS

- Lindfors, E. (2022). Radical path transformation of the Norwegian and Tasmanian salmon farming industries. *Regional Studies, Regional Science.*
- Lindfors, E. & Jakobsen, S-E. (2022). Sustainable regional industry development through co-evolution. *Marine Policy.*
- Lindfors, E. et al. (2021). Place-Based Directionality of Innovation: Tasmanian Salmon Farming. *Sustainability.*

OPEN SOURCE

a2a-rs: Rust implementation of Google's Agent-to-Agent protocol for multi-agent communication
rust-browser-mcp: MCP server in Rust for AI-powered web navigation using Gecko or WebDriver backends
roms-rs: Experimental Discontinuous Galerkin solver for coastal ocean modeling—simulating Norwegian coast currents

See github.com/EmilLindfors for more projects

ACHIEVEMENTS

- **Winner**, Fishackathon Bergen 2016
- **Project Lead**, AquaHack 2018

LANGUAGES

- Swedish (Native)
- Norwegian & English (Fluent)