

Arvid Gerstmann

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Experienced Manager, Software Engineer, and Architect with over twelve years of professional experience. Seven years as Chief Technology Officer (CTO). Proven ability to lead and manage fully remote teams. Exceptional expertise in leading the development and implementation of software solutions and delivering projects on time and within budget. Veteran speaker at C++ and embedded conferences and Rust expert.

TECHNOLOGIES AND LANGUAGES

- **Languages:** Rust, C++, C, Python, Bash, Swift, Kotlin, TypeScript
- **Technologies:** AWS, Linux, Docker, CMake, Ninja, MySQL, PostgreSQL, NoSQL, OpenGL, DirectX, iOS, Android
- **Other:** Embedded, Compiler, DevOps, Agile SCRUM, TDD, Systems Design, IaC, CI/CD, DDD
- **Working knowledge of:** Go, Java, Objective-C, Objective-C++, C#, JavaScript

WORK HISTORY

Lead Software Development Engineer (Contractor)

Aug 2024 — Present

Amazon

Remote - London, UK

- Led development of a Linux administration and management tool suite written in modern, async Rust, reducing incidents by 25% of a fleet of 250,000+ devices across many locations.
- Designed and implemented a native extension library for CODESYS PLCs in Rust and IEC 61131-3, enabling inter-component communication and coordination between robotic workcells.
- Developed a compiler for Protobuf to IEC 61131-3 types to enable interaction from IEC 61131-3 in CODESYS or Beckhoff TwinCAT with other systems.
- Engineered the new integration of Beckhoff TwinCAT into the wider ecosystem by implementing the essential tooling for CI and CD of TwinCAT PLC applications to industrial PCs.
- Ensured compatibility with the two latest LTS versions of Debian, Ubuntu and Amazon Linux by designing and implementing a system for running unit and integration tests remotely on ephemeral EC2 machines.
- Coordinated with various teams across organizations, locations, and time zones to align technical requirements and deliverables.

Technologies used: Rust, C, C++, AWS, Linux, CDK (TypeScript, Node.js), Python

Head of Software Development & Architecture

Jan 2024 — Aug 2024

ZEISS Vision Technology Solutions

Hybrid - Aalen, Germany

- Served on the VTS (Vision Technology Solutions) management team and "Next Gen" working group.
- Managed a team of 5 software architects, engineers, and product owners in Aalen; collaborated with various teams across multiple projects in Bangalore, India.
- Led the adoption of SAFe (Scaled Agile Framework) across the organization as the initiative owner and product manager of the LACE (Lean-Agile Center of Excellence) team achieving an adoption of SAFe in less than 12 months.
- Spearheaded the initiative to modernize and move products into the cloud; collaborated with various stakeholders and teams from different business units to build a unified vision and sound business case.
- Co-authored the first cybersecurity work instruction to ensure compliance with MDR, MDCG, and IEC 81001-5-1; actively participated in passing the notified body audit for ISO 13485, MDSAP, MDR, Taiwan, and MDD certification.

Software Development Engineer III (Contractor)

Aug 2023 — Dec 2023

Amazon

Remote - London, UK

- Rearchitected and rewrote two legacy microservices from Go and Python into Rust, achieving a unified architecture that enhanced code flexibility, maintainability, and testability.
- Designed and implemented an internal tool to enable a stacked pull request workflow for the internal code review tool and platform to improve code review quality and turn-around times - written in Rust.

Technologies used: Rust, AWS, Linux, Go, CDK (TypeScript, Node.js), Python

Head of Software Architecture (VP-Level)

Mar 2022 — Jul 2023

Doxy.me Inc.

Remote - Rochester, New York, USA

- Architected secure software and cloud infrastructure for a telemedicine platform with 10+ million users; collaborated with C-Level and teams to rebuild the product suite using modern development practices to improve code quality and reduce outages.

- Rebuilt CI/CD pipeline in Rust for fast, reproducible deployments; raised product development velocity by 30% by introducing modern development practices, Trunk-Based Development, and Gerrit for a remote team of 35+.
- Improved product reliability by reducing outages by 90% and ensured HIPAA and SOC 2 compliance by introducing code sponsors, RFCs, and an Architecture Review Board; led the team in building and migrating AWS infrastructure following modern DevOps standards.

Technologies used: Rust, AWS, Linux, K8S, Go, Terraform, TypeScript, Node.js, Next.js, WebSockets, WebAssembly

Chief Technology Officer

2015 — 2022

PIA // Appico

Hamburg, Germany

- Grew engineering team to 15 remote engineers across Europe; increased deployment frequency and reduced failure rates by introducing DevOps practices and AWS automation for client projects.
- Improved technical standards and nurtured a culture of technical excellence, ensuring on-time and in-budget delivery of our client projects by mentoring and training engineers.
- Led development of major iOS & Android apps for Deutsche Telekom, Bosch, GUESS, and Kiloo; provided technical consultancy for Porsche, Gala Group, the PIA Group, and others, ensuring on-time and in-budget delivery and fostering a culture of technical excellence.

Technologies used: AWS, Linux, Rust, C, C++, Sitecore XP, C#, Unity, Unreal Engine 4, Azure, Terraform, TypeScript, Swift, Kotlin, Node.js, React.js, Next.js, Python, Bash, Contentful, Shopify, Serverless

Lead Software Engineer

2014 — 2015

Appico

Hamburg, Germany

- Built and managed a small team of 2-3 developers creating bespoke native iOS and Android mobile applications.

EDUCATION

Allgemeine Hochschulreife

2011 — 2014

Berufsbildende Schulen des LK Nienburg/Weser

Nienburg, Germany

- Math, Electronics & Electrical Engineering, and English (primary subjects)

OPEN SOURCE & WRITING

- **Metareflect** - A lightweight reflection system for C++, based on LLVM and Clangs LibTooling, developed for a series of conference talks - available on [GitHub](#).
- **Technical blogging** on my blog, [arvid.io](#). Popular blog posts include pieces about the [C++ pseudo-random number generators](#), [memory mapping on Windows](#), and [GNU Make](#).

Various other projects:

- **Online Radio:** A mobile application developed at age 16 for the Android Market. Over one million downloads.
- **aexpl:** A strongly-typed C-like programming language, written in Rust, using the LLVM compiler backend.
- **ASTL:** An extended reimplement of the C++ standard library, written in C and C++.
- **ferrunix:** A lightweight dependency injection framework for Rust.
- **cargo-nfpm:** A Cargo plugin to integrate with nFPM, simplifying the build process of Linux packages.
- **LiteMon:** A minimal and lightweight Prometheus metric collector for Linux written in Rust.

Comprehensive list of all current and previous projects available at [arvid.io/projects](#).

EXTRACURRICULARS

Public speaking at C++ and embedded conferences

2017 — Present

- Presented at C++ and embedded conferences (CppCon, Meeting C++, C++ on Sea, and emBo++)
- The recordings and slides of each conference talk can be found on my blog at [arvid.io/talks](#).

CERTIFICATIONS

Mixed-Signal Hardware Design with KiCad, Phil's Lab / Fedevel

Oct 2025

Leading SAFe, Scaled Agile

July 2024

Basics in Regulatory Affairs, qtec Academy

May 2024

REFERENCES

References on request.