SENIOR SOFTWARE ENGINEER

Carsten Nilsson

Senior software engineer with hands-on architecture, performance depth, and strong platform judgment

Senior software engineer with long-running ownership of commercial software, deep performance and debugging experience, and strong judgment in mature codebases. My work spans product engineering, reliability, platform operations, and developer tooling, with a focus on making complex systems faster, safer, and easier to operate.

PRODUCT OWNERSHIP
Long-running ownership of Ampler Charts in a business past DKK 10M ARR

COMPLEX SYSTEMS
Performance, reliability, and maintenance work in host-constrained desktop software

PLATFORM OPERATIONS
Private infrastructure with automation, observability, and explicit access design

TOOLING
Go-based operator tooling with diagnostics, local persistence, and support workflows

Website | Email | GitHub | LinkedIn

EXPERIENCE

2018 — Now

Senior Software Engineer

Mar 2018 - Present

Ampler

Senior engineer responsible for a mature commercial desktop product in a business past DKK 10M ARR, with deep work in performance, reliability, and maintenance across a host-constrained Office environment.

Built and evolved commercial productivity software across PowerPoint, Excel, Word, and Outlook, with primary focus on Ampler Charts. Worked hands-on in a mature C#/.NET desktop product where compatibility constraints, formatting fidelity, host behavior, and regression risk all mattered. The work centered on improving runtime behavior, reliability, and maintainability through profiling, targeted performance work, algorithmic improvements, safer exception handling, test-backed maintenance, and durable product design.

- Helped carry Ampler Charts from growth-stage momentum into long-term maturity as a core commercial product.
- Improved chart update performance by up to 20x by introducing caching and batching shape updates as deltas instead of applying changes one by one.
- Implemented a research-based label placement algorithm for an NP-hard overlap-reduction problem, using an O(n^2 * c^2) approach that kept complex chart layouts workable in practice.
- Became a go-to engineer for difficult chart and layout issues involving performance, complexity, and Office/COM constraints.

Tools: C#, .NET Framework, WPF / XAML, MVVM, PowerPoint automation, Performance optimization, Test automation, PowerShell automation, VSTO, Office Interop

2014 — 2018

Senior Analyst

Sep 2014 - Feb 2018

Accenture

Delivered enterprise implementation work across ETL, migration, and business-critical backend systems where correctness, delivery discipline, and system constraints mattered.

Worked across analysis, implementation, and client delivery in enterprise consulting engagements. Contributed to .NET-based ETL pipelines moving business-critical data from IBM Db2 systems into a new database environment and to a ship maintenance and management system, combining hands-on implementation with the delivery discipline needed in constrained, risk-sensitive environments.

- Delivered ETL, data migration, and integration work where correctness mattered to client operations.
- Worked across analysis, implementation, and stakeholder-facing delivery in structured enterprise environments.
- Handled business-critical backend workflows spanning legacy data sources, target-system constraints, and delivery expectations.

Tools: C#, .NET, ETL, IBM Db2, Data migration, Technical analysis, Client delivery, Enterprise systems

2014 — 2014

Student Software Developer

Feb 2014 - Aug 2014

ClearView Trade

Early commercial product development role held while finishing university studies.

Worked hands-on with development tasks in a commercial product setting, building early experience with product-oriented engineering pace and collaboration.

- Built early product-focused engineering experience while finishing university studies.

Tools: C#, .NET, KnockoutJS, Commercial product work

2013 — 2014

Student Software Developer

Jun 2013 - Feb 2014

Netcompany

Early consulting-focused software role in a fast-paced team environment.

Contributed to software delivery in a part-time role, building practical experience with implementation work and team-based engineering.

- Built early consulting-style delivery habits in a fast-moving engineering environment.

Tools: C#, .NET, ASP.NET, MSSQL, SharePoint, BackboneJS, Consulting

2012 — 2013

Student Software Developer

Dec 2012 - May 2013

Infomedia

First professional software role alongside university studies.

Contributed to software development in a professional environment, building early real-world engineering experience before moving into larger delivery roles.

- Built the base for later product and consulting roles in professional software delivery.

Tools: C#, .NET MVC, MySQL, Professional delivery

SELECTED PROJECTS

PRIVATE PLATFORM

Private platform operations and infrastructure automation

Own and operate a private platform under `nosslin.dk`, covering infrastructure automation, observability, access design, and repeatable day-2 operations.

- Own the stack from virtualization and container runtime to ingress, access policy, monitoring, verification, and day-2 operations.
- Run the platform through Ansible, Terraform/OpenTofu, and documented workflows instead of ad-hoc administration.
- Use inventory, validation, drift checks, and post-apply verification as standard operating practice.

Keywords: Proxmox, Ansible, Terraform / OpenTofu, Docker / Docker Compose, Cloudflare Access, Caddy, Tailscale, Prometheus / Grafana / Alertmanager, Linux systems administration, GitHub Actions / CI automation

- Built around Proxmox VMs and LXCs with documented inventory, lifecycle management, and sizing decisions.
- Operate Linux-based services through VMs, LXCs, and Docker Compose with repeatable storage and backup workflows.
- Support the platform with local tooling and workflow automation so recurring operations stay reviewable and repeatable.
- Manage infrastructure through Ansible, OpenTofu, and Terraform, including Cloudflare DNS, Tunnel, and Access workflows.
- Built ingress and reachability patterns with Caddy, Tailscale, and private DNS across public and private access tiers.
- Expanded observability with Prometheus, Grafana, Alertmanager, blackbox checks, and service-specific monitoring.

DEVELOPER TOOLING

Cross-platform Go CLI and terminal tooling

Built a cross-platform Go CLI and terminal-first operator tool with local state, diagnostics, and lightweight observability support.

- Designed an operator tool rather than a thin wrapper, with command design, keyboard-first workflows, and support-oriented UX.
- Combined CLI flows, terminal UI state, local persistence, diagnostics capture, and lightweight metrics in one maintainable tool surface.
- Shipped with testing, mock scenarios, cross-platform CI, and contributor-facing documentation.

Keywords: Go, CLI / developer tooling, Terminal UI / TUI, SQLite / local persistence, Debugging and diagnostics tooling, Prometheus / observability instrumentation

- Built in Go with a structured command surface, terminal-first runtime views, history handling, and local state management.
- Used SQLite-backed local persistence for analytics and history instead of treating tool state as disposable.
- Added debug bundle and snapshot workflows to make support and first-step diagnosis easier.
- Exposed lightweight HTTP and Prometheus-facing metrics so the tool can participate in observability workflows without turning into a backend service.

SKILLS

CORE

C#, .NET / .NET Framework, Go, TypeScript, Python, SQL

RUNTIME

Performance optimization, Profiling, Reliability / exception handling, CI/CD, Debugging and diagnostics tooling

PLATFORM

Platform operations, Linux systems administration, Observability, Prometheus / Grafana / Alertmanager, Access control

NETWORKING

Cloudflare Access / Tunnel, Tailscale / private networking, Private DNS and ingress, Caddy

SPECIALIZED

Microsoft Office add-ins, PowerPoint automation, VSTO, Office Interop, ETL

EDUCATION

M.Sc. in Computer Science

2012 - 2014

Technical University of Denmark

Graduate studies in computer science and software engineering, with focus on architecture, requirements, formal methods, and a deeper technical foundation for professional software engineering.

Grade: 9.5 | **US:** A-/B+

THESIS

Development of Social Network for Local Communities using a Cloud Platform

Designed and built an Azure-based social platform for local communities to share resources and household items.

- Built around an Azure/cloud platform with a local-community sharing use case.
- Focused on practical resource sharing and household-item reuse.
- Supervised by Christian D. Jensen.

B.Sc. in IT & Communication Technology

2009 - 2012

Technical University of Denmark

Broad engineering foundation across mathematics, natural science, networks, software development, and communication technology.

Grade: 7.4 | **US:** B

BACHELOR PROJECT

Building an Intelligent Controllable Home - For the Solar Decathlon House

Built an iPad-based control system for an energy-positive competition house, covering appliance control and house telemetry.

- Built for the Solar Decathlon energy-positive house context.
- Covered both appliance control and house telemetry.
- Supervised by Christian D. Jensen.