

Grzegorz (Greg) Lapinski

PRINCIPAL SOFTWARE ENGINEER · SYSTEMS, DATABASES & AGENTIC INFRASTRUCTURE

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Summary

Principal Software Engineer with 20+ years building production-critical systems across embedded runtimes, distributed cloud platforms, database engines, and large-scale SaaS backends.

Career arc: systems programming → distributed platforms → database internals → production-scale backend engineering → agentic infrastructure.

Depth spans SQL Server internals, Linux isolation, high-throughput queueing, resource governance, and large-scale .NET modernization; current work applies that foundation to agentic developer infrastructure.

Experience

Salesforce

Bellevue, WA, USA

PRINCIPAL BACKEND SOFTWARE ENGINEER

Aug 2021 - Present

- Stabilized Salesforce Marketing Cloud's multi-tenant asynchronous processing pipeline — reduced noisy-neighbor incidents by 99% and SQL Server resource utilization by 75%.
- Optimized its queueing internals — doubled request throughput and cut processing latency 4x while sustaining queues containing millions of requests.
- Designed an automated throttling algorithm using probabilistic programming and surrogate models to maintain fair resource sharing across concurrent workloads without manual intervention.
- Led Salesforce Marketing Cloud's migration from .NET Framework to .NET 8; personally ported most of the initial portfolio, established reusable migration patterns and infrastructure, and built AI-assisted tooling for subsequent conversions.
- Mentored engineers across teams in managed code debugging, SQL Server performance tuning, and production incident analysis.
- Technologies:
C#, .NET 8, SQL Server, WinDbg.

Microsoft Corporation - SQL Server

Redmond, WA, USA

PRINCIPAL SOFTWARE ENGINEER

Oct 2013 - Aug 2021

- Technical lead for the cross-organization [Extensibility](#) project; ported the SQL Satellite framework and SQL Server type system from Windows to Linux, and built process isolation with Linux namespaces and cgroups.
- Owned the SQLCLR host, the .NET runtime integration layer inside the SQL Server engine.
- Designed and delivered SQL Server 2016 ["It Just Runs Faster"](#) improvements: 19x faster STDistance execution, 15x+ higher spatial-TVP row throughput, 10x+ higher XEvent reader throughput, and 2x+ faster spatial index builds at 300M+ row scale.
- Built organization-wide debugging infrastructure for the SQL Server engine — auto-generating C# debugging scripts from C++ PDB symbols, replacing legacy tooling and becoming the standard approach across the organization.
- Collaborated with the MLOS team to integrate [MLOS](#) with SQL Server for engine performance optimization and co-authored the [DEEM 2020 paper](#).
- Implemented [Visual Studio remote debugging](#) for .NET code hosted inside SQL Server on Linux.
- Delivered engine and tooling features across multiple releases, including SQL Server big data cluster data pools, SSMS compare plans, and a new plan layout algorithm.
- Technologies:
C++, C#, PowerShell, .NET Framework, .NET Core, gRPC, WinDbg, WPF.

Earlier Experience

Microsoft Corporation - Azure Networking

SOFTWARE ENGINEER IN TEST

Dublin → Redmond, WA, USA

May 2009 - Oct 2013

- Designed test architecture for Azure DNS service. Developed RCES — a distributed test execution and fault-injection framework — to simplify large-scale validation across heterogeneous environments.
- Designed and implemented a deployment service for PaaS and IaaS tenants. Created the Remote Cluster Repository test framework.
- Designed and implemented code coverage collection for SLB (Software Load Balancer).

Microsoft Corporation - Windows Phone 7

SOFTWARE ENGINEER

Dublin, Ireland

May 2008 - May 2009

- Implemented network traffic monitoring and cost estimation engine for Windows Phone data plan management, including NDIS driver-level components.

EMCC Software Ltd

SOFTWARE ENGINEER

Manchester, UK

Jun 2007 - May 2008

- Developed BlackBerry push email client for Sony Ericsson mobile phones.

Ideal Host Poland

SOFTWARE ENGINEER

Gdansk, Poland

Jul 2005 - May 2007

- Architected and led development of a line-of-business system for the UK Joint Industry Board for Plumbers.

Axiom Software

CO-FOUNDER

Gdansk, Poland

Jan 2004 - Jul 2005

- Built and shipped a sales management platform end-to-end — from architecture through sales and marketing — deployed to several food distribution companies with full ERP integration.

IVO Software (acquired by Amazon)

SOFTWARE DEVELOPER

Gdansk, Poland

Aug 2001 - Dec 2003

- Ported the voice synthesizer (Polish language) to Symbian platform S60, implemented audio streaming.
- Designed and implemented UniSpeaker, an accessibility application for visually impaired users.

Open Source

- [TermAl](#) — Workspace for supervising AI coding agents: session orchestration, diff review, approvals, and persistence. *Rust, React, TypeScript*
- [PhoenixCodeNav](#) — Code-navigation MCP server for enterprise-scale C#/F# monorepos, with ranked search, semantic references, project graphs, and compact context packs. *C#, F#, Roslyn, SQLite*
- [Starfish](#) — Async I/O runtime built around lock-free data structures for high-throughput workloads. *Rust*

[Agos.jl](#) — surrogate-based optimization using GP, SVM, and XGBoost. [OpenSSL.jl](#), [Nghttp2.jl](#), and [gRPC.jl](#) — networking and transport bindings for Julia, including the official OpenSSL package.

Core Capabilities

Technologies C++, C#, Rust, F#, .NET, SQL Server, Linux, PowerShell, Roslyn, SQLite, gRPC, WinDbg

Domains Database engines, distributed systems, async runtimes, performance engineering, developer tooling, agentic infrastructure

Education

Gdansk University of Technology

M.S. IN COMPUTER SCIENCE AND ENGINEERING; B.S. IN COMPUTER SCIENCE

Gdansk, Poland

1998 - 2003

- Minor: Biomedical Engineering
Master's thesis: "EEG analysis using wavelet transform"