

Borbála Szilágyi

Software Development Engineer – Engineering Team Lead

Budapest, Hungary | open to remote (timezone flexible) | English C1

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SUMMARY

Software Engineering Team Lead and hands-on software engineer building safety-critical railway systems. Leads a cross-functional team of four developers across four products, and helps drive AI adoption across Prolan's roughly 200-person organisation – work that has lifted the team's feature delivery by about 30%. Builds open-source AI developer tooling and a live SaaS product outside work. MBA in Finance & Management.

SKILLS

- **Programming Languages:** Java (21), Kotlin, TypeScript, JavaScript, Python, SQL
- **Backend & Web:** Spring, Spring Boot, REST APIs, Node.js, Express.js, Fastify
- **Frontend:** React, Vaadin, JavaFX
- **Databases:** SQL (PostgreSQL), ORM (Hibernate, Prisma), Redis
- **Model-Driven Engineering:** Eclipse Modeling Framework, Xtext, Xtend, Ecore, Xcore
- **DevOps & Testing:** Git, GitLab CI/CD, GitHub Actions, Jenkins, Maven, Gradle, Docker, Kubernetes, AWS, JUnit
- **AI Engineering:** LLM agents in production CI/CD, RAG pipelines, MCP servers, Claude Code, ChatGPT/Codex
- **Leadership:** hiring, mentoring, 1:1s, Agile/Scrum & multi-team planning, stakeholder & change management

EXPERIENCE

Prolan Irányítástechnikai Zrt. – railway control & safety systems

Budapest, Hungary

Software Engineering Team Lead

May 2024 – Present

- Lead a cross-functional Scrum team of 4 developers, owning people management, technical direction, and end-to-end delivery across 4 software products; about 20% hands-on.
- Absorbed a 33% rise in incoming demand at flat headcount, resolving 379 tickets in 2025 (+7% year over year) while keeping the typical merge-request cycle under 24 hours.
- Serve on Prolan's five-person AI working group: prompting and review standards, upskilling sessions, and shared AI infrastructure (MCP servers, agent tooling, a RAG chatbot over internal documentation).
- Built a Claude-powered GitLab merge-request review and auto-fix pipeline; in production across team repositories.
- Retained all 4 engineers over two years; mentored an intern into a full-time hire and supervised a Master's thesis.
- Won over ProrisCAD's initially resistant user teams, who later presented the product at a railway conference.
- Shipped DisCom to two cross-border stations (Hungary–Serbia) on a hard external deadline.
- Took Titanium from parallel legacy operation to a single modern stack – production scalability fixes, a scoped super-user role to cut admin sprawl, and a persistence migration from an in-house database layer to Hibernate.

Products led at Prolan:

ProrisCAD (desktop) – design and parameterisation tool for railway safety systems. *Java, Eclipse Modeling Framework, Xtext/Xtend, Graphiti.*

Titanium (web) – component and inventory management for manufacturing. *Java, Spring, PostgreSQL, Vaadin.*

WebDiag (web) – real-time diagnostics and fault analysis for railway signalling stations. *Java, Spring, PostgreSQL, React, TypeScript.*

DisCom (desktop & web) – cross-border railway communication with built-in translation. *Java, Swing, Node.js, React, PostgreSQL.*

Software Development Engineer

Jul 2022 – Apr 2024

- Developed ProrisCAD features across Ecore/Xcore metamodels, Xtext/Xtend DSLs, and Graphiti diagram editors, and helped shape the model-to-SQL generation pipeline behind safety-critical interlocking systems.

aiMotive Kft. – C++ Developer

Sep 2020 – Mar 2021

- Developed and optimised C++ modules for the aiDrive autonomous-driving stack.

OPEN-SOURCE PROJECTS

RAMSey (live at ramseytools.com | github.com/szilagyib/RAMSey)

Real-time collaborative editor for reliability & safety diagrams: six diagram types, integrated solvers, AI-assisted editing, LaTeX/TikZ export. Built and deployed end to end. *React 19, TypeScript, Fastify, PostgreSQL, Yjs, Docker on AWS EC2, GitHub Actions, Vitest & Playwright.*

GitAgents (github.com/szilagyib/GitAgents)

AI code review for GitLab and GitHub: a second adversarial pass tries to refute every finding, and only what survives is posted, with one-click fix suggestions and an advisory merge gate. Review threads run through GitHub's GraphQL API. *TypeScript, Node.js, Anthropic & OpenAI APIs.*

GlassBoxRAG (github.com/szilagyib/GlassBoxRAG)

Document Q&A with full pipeline transparency: every claim cited to the exact source sentence, retrieval scores and traces exposed, and a built-in evaluation lab with LLM-judged quality metrics. *Python, Streamlit, LanceDB, litellm.*

PUBLICATIONS

Medium, 2026: **The AI Era Needs Smarter Failure** | **Building a Transparent RAG, Transparently**

EDUCATION

Eötvös Loránd University

2023 – 2025

MBA in Finance & Management; highest honours.

Budapest University of Technology and Economics

2017 – 2023

MSc & BSc in Computer Science Engineering – Critical Systems / Systems Engineering.

Both with highest honours; teaching assistant for Formal Methods (2022).