

KIRILL ELAGIN

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Principal Systems Engineer bridging the gap between **software performance and developer productivity**. Combines extensive **C++**, **functional programming (Haskell)**, and **Linux** experience with modern build toolchains (**Nix**, **CMake**) to deliver reproducible, high-performance computing environments. Technical leader capable of diagnosing kernel-level issues and driving cross-team architectural improvements.

WORK EXPERIENCE

[a hedge fund] (New York, USA; Zug, Switzerland) 2022 .. now

Lead Engineer (2026) ← Senior Engineer

- **Infrastructure ownership:** Owning release management of the firm's core C++ simulation infrastructure; designed and introduced a hermetic *CMake/Nix* build system to replace legacy Makefiles.
- **Storage optimisation:** Designed and implemented an alternative backend for the internal storage library (handling 100s of PB), achieving a **1000x** performance improvement for specific use cases.
- **Computational efficiency:** Led cross-team efforts to optimise research algorithms (SIMD/AVX, memory patterns), reducing CPU and memory usage by **3x–50x**.
- **Systems expertise:** Serves as the subject matter expert on Linux internals (ELF, libc, dynamic linking), implementing custom LD_AUDIT hooks, and resolving complex kernel-level issues.

Serokell (remote) 2017 .. 2022

Chief Technology Officer (2020) ← Staff Engineer (2018) ← Software Engineer

- **Engineering leadership:** Scaled the engineering team from 5 to 50+ developers (**10x** growth), establishing the company's first SRE team and defining technical hiring strategy.
- **R&D delivery:** Directed the delivery of complex consulting projects, including secure blockchain smart-contract design and Language Server Protocol (LSP) implementations, while maintaining hands-on coding involvement in *Haskell*.
- **Process improvement:** Turned around a failing critical project upon promotion to Staff Engineer, subsequently standardising project management and development best practices used across the entire organisation.

JetBrains Research (St. Petersburg, Russia) 2015 .. 2017

Researcher / Software Developer

- **Compiler development:** Contributed to the core *Java* implementation of the Arend proof assistant and type checker within the HoTT (Homotopy Type Theory) group.
- **IDE engineering:** Engineered an experimental projectional web-based IDE that operated directly on Abstract Syntax Trees (AST), solving complex challenges in language and tooling design.

EDUCATION

M.Sc. in Theoretical Computer Science (*summa cum laude*) 2013 .. 2015
St. Petersburg Academic University (St. Petersburg, Russia)

B.Sc. in Applied Mathematics and IT 2009 .. 2013
ITMO University (St. Petersburg, Russia)

OPEN SOURCE AND COMMUNITY

🔗 github.com/kirelagin (**9k+** commits in public repositories)

📖 stackoverflow.com/users/603094/kirelagin (**13k+** reputation)

⚙️ **Nix/Nixpkgs/NixOS:** community member and contributor **since 2012**

🎓 **Teaching:** Functional Programming (Haskell), Types in Programming Languages