*Last updated in October 2025*

# Miha Krajnc

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## Summary

Software engineer with experience in high-performance computing, data acquisition, and machine learning. Skilled in designing efficient pipelines and simulation frameworks, with a focus on reliability and large-scale systems.

## Experience

**Software Engineer** — *Trbovlje, Slovenia*
*Dewesoft* — *July 2019 – present*

- Core developer on a desktop data acquisition application used by renowned clients like Airbus, NASA, Tesla, and Daimler.
- Maintained and optimized a real-time data acquisition engine for various applications.
- Designed a custom domain-specific language and interpreter with SIMD optimizations to accelerate signal processing workflows.

**Visiting Student Researcher** — *Stanford, CA*
*Stanford University* — *Oct 2024 – Dec 2024*

- Conducted research on large-scale machine learning models for biotechnology applications.
- Developed data ingestion and metadata indexing pipelines for improved preprocessing throughput.
- Designed and deployed CUDA/Triton kernels to accelerate model training, achieving substantial performance gains.

**Lead Simulations Engineer** — *Ljubljana, Slovenia*
*DBF Edvard Rusjan* — *Sept 2022 – Oct 2024*

- Led a team of simulation engineers for an international UAV competition (Design/Build/Fly).
- Developed a high-fidelity flight simulator and optimization tools exploring millions of design variations.
- Contributed to multiple first-place competition results through simulation-driven design optimization.

## Education

**University of Ljubljana** — *Oct 2022 – Oct 2025*
*MS in Computer Science*

- Specialized in high-performance computing and mathematical modeling.

**University of Ljubljana** — *Oct 2019 – Sept 2022*
*BS in Computer Science*

- Served as a tutor of Computer Architecture.

## Projects

**QCASim** — *github.com/mihoci10/QCASim*

- Rust-based simulation framework for quantum cellular automata, enabling performance benchmarking of novel designs.

**QCAForge** — *github.com/mihoci10/QCAForge*

- Desktop application for designing and simulating quantum cellular automata circuits, featuring an intuitive GUI and advanced simulation capabilities.
- Built with Tauri, using Typescript, Rust, Svelte, and WebGL.

## Technologies

**Languages:** Python, C++, Rust, SQL, JavaScript, TypeScript

**Tools & Frameworks:** CUDA, PyTorch, Git, distributed systems, mathematical modeling