Nhut Nguyen, Ph.D.

Senior C++ Software Engineer | HFT-grade C++
High-Performance, Low-Latency, Multithreaded Systems

nhut@nhutnguyen.com
https://github.com/ntnhut
https://www.linkedin.com/in/ntnhut

PROFILE

Senior C++ software engineer with deep experience building and optimizing performance-critical, low-latency systems. Proven background in multithreading, memory management, and algorithmic optimization in production environments with strict correctness and timing constraints. Comfortable working closely with traders, researchers, and engineers in fast-moving, impact-driven teams.

CORE EXPERTISE

- Modern C++ (C++17/20/23) in performance-critical codebases
- Low-latency & high-throughput system design
- Multithreading, lock-free & contention-aware programming
- Memory management, cache locality, allocator behavior
- Performance profiling, benchmarking, and tuning
- Production debugging under load

WORK EXPERIENCE

DEC 2022 – PRESENT (3 YRS)

Alipes ApS (Denmark)
Research Infrastructure Engineer

- Designed and implemented high-performance C++ systems supporting real-time trading and prediction workloads.
- Optimized critical execution paths to operate within microsecond-level latency budgets.
- Improved system reliability and determinism through careful memory layout, threading models, and data-structure choices.
- Collaborated daily with quants, traders, and engineers to translate models into scalable, production-ready C++ components.
- Analysed live system behavior using profiling tools and iterated rapidly based on production feedback.
- Took ownership of core components, debugging and fixing issues under real production pressure.
- Contributed reusable internal libraries used across research, simulation, and live environments.

DEC 2021 – NOV 2022 (1 YR)

CLAAS E-Systems Denmark
C++ Software Developer

- Modernized legacy C++ codebases into a new embedded platform with real-time constraints.
- Focused on performance, determinism, and reliability on Linux-based systems.
- Strengthened low-level understanding of OS, threading, and hardware interaction.

AUG 2018 – SEP 2021 (3 YRS 1 MO)

Synopsys Denmark ApS
Senior R&D Engineer

- Optimized large-scale, computation-heavy C++ engines used in production EDA workflows.
- Delivered 2x performance improvements through algorithmic and systems-level optimization.
- Improved robustness of critical components to 95% stability under demanding workloads.
- Worked extensively with profiling, benchmarking, and performance regression analysis.

FEB 2016 – JULY 2018 (2 YRS 6 MOS)

Teklatech A/S (Denmark)
Software Development Engineer

- Developed and optimized numerical models for power delivery networks with complex connectivity.
- Emphasized correctness, performance, and scalability in computation-heavy systems.

TOOLS & PRACTICES

LANGUAGES	C++20/23, Python
SYSTEMS	Linux, Docker
EDITORS	VS Code, Rider
BUILD & CI	Git, GitHub, GitLab, CMake Jenkins, TeamCity
PRACTICES	Agile development, code reviews Performance benchmarking

EDUCATION

2012 – 2015	**Ph.D. in Math & Computer Science** *Technical University of Denmark*
2005 – 2009	**M.Sc. in Algebra & Number Theory** *Vietnam National University HCM*
2000 – 2004	**B.Sc. in Math & Computer Science** *Vietnam National University HCM*

LANGUAGES

ENGLISH	Fluent
DANISH	Limited working proficiency
VIETNAMESE	Native