Janik

 janik-git | ✉ janikbuis@proton.me

Recent graduate with a passion for high performance computing and hardware aware programming looking for full-time work or internships. Open to relocate.

Projects and Experience

Master Thesis

IMPROVING GENOMIC CALCULATIONS THROUGH HAPLOTYPE STRUCTURES

- **Designed and implemented** specialized matrix multiplication kernel for processing custom, compressed genomic data and standard floating-point matrices.
- Engineered a **hardware-aware** algorithm that achieved a $40 \times$ **performance gain** over a standard baseline (OpenBLAS).
- Leveraged underlying hardware characteristics, including **cache hierarchy and SIMD capabilities**, to optimize data access patterns and computational throughput.

C/SIMD   HPC   Hardware

Independent Engagements

SOLIDITY SMART CONTRACT SECURITY AUDITS

- Contributed to security audits of Ethereum smart contracts, proactively identifying vulnerabilities.
- Safeguarded investor capital by providing timely and effective remediation strategies.

Solidity   Ethereum

Education

MASTER OF SCIENCE IN MATHEMATICS, **3.9/4 GPA** (CONVERTED)   *2023 - 2025*

- Courses: Stochastic Caclulus | Partial Differential Equations | Reinforcement Learning | Cryptography

BACHELORS OF SCIENCE IN MATHEMATICS AND ECONOMICS   *2020 - 2023*

Professional Experience

SCIENTIFIC ASSISTANT   *2025 - Present*

- Extended Master's thesis research, collaborating with researchers to further optimize and validate methodologies.
- Supported professor's research by compiling and analyzing technical documentation on topics including:
  - ‣ **Multithreading and Concurrency models**
  - ‣ **GPU Programming (CUDA)**

Skills

Languages   **Fluent:** English, German | **Learning:** Korean
Tech Stack   C/CPP | Zig | Cuda | Python | Linux | Nix(os)