Léo **Naizin**

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Experienced C++/Unreal Engine Engineer

Education

Computer Science Engineering diploma (Masters equivalent) — *Compiègne, France*
Université de Technologie de Compiègne — *2021 - 2024*

- During my free time, I implemented algorithms I thought were interesting, like the Delaunay Triangulation in $O(n\log(n))$ complexity
- Focused on **C/C++** and **Rust**
- Learned about and used theoretical tools, like constraint programing and linear programming

Computer Science DUT (Bachelors equivalent) — *La Rochelle, France*
IUT de La Rochelle — *2019 - 2021*

- Specialized in systems programming
- Learned kernel development, POSIX, assembly, 3D graphics (with **Vulkan**), and Drivers
- Learned C/C++ in depth at school, and started learning Rust in my free time, dabbled with functionnal programming languages

Professional Experience

Apprenticeship as an Engineer Développer — *Paris, France*
Blue Node — *2021 - 2024*

- Learned the Unreal Engine technical stack from scratch, C++, and Python
- R&D project on integrating motion capture to the In-Camera VFX stack (Lots of 3D and image algorithms)
- Extracted technical specifications from a given problem
- Development of necessary tooling for Unreal Engine productions (Using mostly Python/C++)
- Trained a new employee to our technical stack

C++ Python Unreal Engine

Projects & Associations

Coded a Rust integration for macos' PrivateFramework kperf
School/Personnal project — *Fall 2023*

- Coded a **Rust multi-architecture**, **multi-platform** program
- Project originated from a lack of low-level profilers outside of Linux
- Conditionnal compilation
- Reverse engineering of **MacOS' PrivateFramework** kperf (with the hopper software)
- MacOS PrivateFramework wrapper Multi-platform Multi-architecture code

Implemented Delaunay triangulation in $O(n\log(n))$ complexity
Personnal Project — *2022*

- Researched Leonidas Guibas and Jorge Stolfi's 1985 paper
- Learned about Mathematical topology from youtube educationnal videos
- Implementation in **Rust**, with the **nanou** library for rendering
- Delaunay triangulation library source

Coded an assembly SIMD image filter
School project — *Fall 2021*

- **SIMD** assembly version 4x faster than the équivalent C program compiled as O3
- Border detection with the Kovalevsky filter

Vulkan 3D rendering engine
Personnal project — *Summer 2020*

- Learned about the Vulkan and OpenGL C++ APIs
- Learned how a graphics card and a graphics pipeline work
- Used **premake** to generate project files

Skills

Languages English | French | Chinese
Tech Stack Tableau | Python (Pandas/Numpy) | PostgreSQL
Personal Interests Swimming | Cooking | Reading