

Patrick Attimont

Engineering - M2 student at Ensimag

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Education

- 2024 - 2025 **M.S., Computer Science**, *Université Grenoble Alpes*, Grenoble, France
One-year double degree master's program (MoSIG) specializing in graphics and visualization.
Coursework: Advanced Computer Graphics, GPU Computing, Computer Vision, Robotics.
- 2023 - 2025 **Engineer's Degree, Computer Science**, *Grenoble INP - Ensimag*, Grenoble, France
- 2024 **Exchange Semester**, *Chalmers University of Technology*, Gothenburg, Sweden
Coursework: Advanced Computer Graphics, Game Engine Architecture, Machine Learning.
- 2022 - 2023 **B.S., Computer Science**, *Grenoble INP - Ensimag*, Grenoble, France, *4.0 GPA*
Part of a three-year engineering program in computer science and applied mathematics.
- 2020 - 2022 **Preparatory School**, PCSI - PSI*, *Lycée Chateaubriand*, Rennes, France, *4.0 GPA*
Two-year intensive program in mathematics and physics preparing for highly competitive entrance exams to the French "grandes écoles".

Experience








Internships

- Feb 2025 - **Research Intern**, *INRIA*, Grenoble, France
- Aug 2025 Master thesis, supervisor: Dr. Cyril Soler
- Spectral analysis of light transport operators.
 - Application to global illumination of Monte-Carlo factorization methods of large matrices.
- Jun 2024 - **R&D Graphics Engineer Intern**, *CORYS*, Grenoble, France
- Sep 2024
- Developed real-time techniques to simulate realistic effects such as frost, fog, and dirt accumulation on train windshields.
 - Shader development using Unreal Engine's render dependency graph.

Contributions

- Jan 2024 - **Gameplay Programmer**, *BFME-Reforged*
- Jun 2024
- Contributed to a community project to recreate EA's Battle for Middle-Earth games.
 - Implemented a unit formation system with Unreal Engine 5 and C++.

Selected Projects

- 2024 **Nexus Renderer**  Project  Source Code
- Physically based GPU path tracer developed from scratch in C++ and CUDA.
 - Implemented various rendering techniques including microfacet material models, sampling techniques (BSDF importance sampling, next event estimation, multiple importance sampling), and GPU optimizations to achieve interactive rendering (wavefront path tracing, dynamic ray fetching, compressed wide BVHs).
- 2025 **Nexus BVH**  Report  Project  Source Code
- BVH builder developed in C++ and CUDA.
 - Implemented H-PLOC, a state-of-the-art method for fast, high-quality BVH construction.
- 2024 **Zendite Engine**  Project  Source Code
- Collaborated on a small-scale game engine project developed in C++ and OpenGL.
 - Implemented the rendering system (shading, lighting system, shadow mapping).

Honors & Awards

2024 **PERSYVAL Scholarship** (8,000€), *Université Grenoble Alpes*
Given by the Université Grenoble Alpes for excellent academic performance.

Graphics & Computer Skills

Programming C, C++, Python, Java, Kotlin, x86 Assembly
Frameworks CUDA, OpenGL, GLSL, HLSL