Patrick Attimont

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patrick-attimont | StokastX

Summary

I am a final-year engineering student at Ensimag (Université Grenoble Alpes), aiming to pursue research in computer graphics. My interests include sampling techniques (ReSTIR, light and BSDF sampling algorithms), acceleration structures for ray tracing, material modeling, and other topics related to realistic and efficient light transport simulation.

Experience

Graphics R&D Engineer Intern — *Grenoble, France*
CORYS — *June 2024 – Sept 2024*

- Shader development using Unreal Engine's render dependency graph to enhance the windscreen effects system in the CORYS train simulator, improving visual realism and performance

Gameplay Programmer - Voluntary — *Jan 2024 – June 2024*
BFME-Reforged

- Contributed to a community project to recreate the Battle for Middle-Earth games by EA
- Implemented a unit formation system under the lead developer's guidance with Unreal Engine 5 and C++

Selected Projects

Nexus Renderer — *stokastx/nexus*

- 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)

Zendite Engine — *stokastx/zendite*

- Collaborated on a small-scale game engine project developed in C++ and OpenGL
- Implemented the rendering system (shading, lighting system, shadow mapping)

Education

Université Grenoble Alpes — *Grenoble, France*
MSc in Computer Science (double degree) — *Sept 2024 – June 2025*

- One-year double degree international master's program (MoSIG) specializing in graphics and visualization
- **Coursework:** Advanced Computer Graphics, GPU Computing, Computer Vision, Robotics

Université Grenoble Alpes - Ensimag — *Grenoble, France*
Engineer's Degree and BSc in Computer Science and Applied Mathematics — *Sept 2022 – June 2025*

- Three-year program in one of France's leading engineering schools, specializing in computer science and applied mathematics
- Obtained a BSc in 2023 as part of the engineering curriculum

Chalmers University of Technology — *Göteborg, Sweden*
Exchange Semester - Computer Science — *Jan 2024 – June 2024*

- **Coursework:** Advanced Computer Graphics, Game Engine Architecture, Machine Learning

University of Rennes - Lycée Chateaubriand — *Rennes, France*
*Preparatory School, PCSI - PSI** — *Sept 2020 – June 2022*

- Two-year intensive program preparing for highly competitive entrance exams to the French "grandes écoles"
- **Coursework:** Mathematics, Physics, Computer Science

Graphics and Computer Skills

Graphics & GPU Programming: CUDA, OpenGL, GLSL, HLSL

Physically Based Rendering: Linear algebra, probability theory, sampling techniques, light transport theory, material models

Programming Languages: C, C++, Java, Python, Kotlin

Honors & Awards

PERSYVAL Scholarship ($8,000) *June 2024*

- Given by the Université Grenoble Alpes for excellent academic performance