Patrick Attimont

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in patrick-attimont   ⌗ StokastX

Research Interests

I'm an engineering and M2 student at Ensimag, aiming to pursue research in computer graphics. My interests include path sampling techniques like ReSTIR, acceleration structures for ray tracing, material modeling, and other topics related to realistic and efficient light transport simulation.

Experience

Graphics 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

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

- BFME-Reforged is a community project to recreate the Battle for Middle-Earth (BFME) games by EA
- Under the lead developer's guidance, I implemented new gameplay features with Unreal Engine 5 and C++

Notable Projects

Nexus Renderer   *stokastx/nexus* ⬈

- Physically based GPU path tracer developed from scratch in C++ and CUDA
- It implements a range of advanced rendering techniques including microfacet material models, sampling techniques (BSDF importance sampling, next event estimation, multiple importance sampling), and GPU optimizations (wavefront path tracing, dynamic ray fetching, compressed wide BVHs)

Zendite Engine   *stokastx/zendite* ⬈

- Small scale game engine developed in C++ and OpenGL
- I was part of a team and implemented the rendering system (shading, lighting system, and shadow mapping)

Education

Grenoble INP - UGA   *Grenoble, France*
MSc in Computer Science (double degree)   *Sept 2024 – June 2025*

- **Major**: Artificial Intelligence for Graphics, Interaction, Vision and Robotics
- **Coursework:** Advanced Computer Graphics, GPU Computing, Computer Vision, Robotics

Grenoble INP - Ensimag   *Grenoble, France*
Engineer's Degree 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

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

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

Lycée Chateaubriand   *Rennes, France*
Mathematics, Physics   *Sept 2020 – June 2022*

- Two-year intensive program preparing for competitive exams to enter France's top engineering schools
- **Coursework:** Mathematics, Physics, Computer Science

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

Honor & Awards

PERSYVAL Scolarship ($8,000): The "Université Grenoble Alpes", through its excellence center (LabEx) PERSYVAL, funds a scholarship program for attracting exceptional candidates in the second year of one of its master's degree related to the PERSYVAL disciplines

Interests

Sports: Soccer (8 years), Ski, Badminton

Music: Piano (6 years)