Hélène HASSAN

A highly passionate and hardworking junior engineer specialized in computer science and applied mathematics. Prospective career goal is to become fully qualified in one or more of the following fields: computer graphics, physics simulation and high performance computing.

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Education

Grenoble, France
9/2021 - 4/2025

Engineering Degree - *ENSIMAG*
Graduate School of Engineering in Applied mathematics and Computer Science of Grenoble.
Ranking: *1st year = 4th/250, 2nd year = 5th/250* ***Specialty:*** *computer graphics, computer vision, mathematical simulation and high performance computing.*

Tokyo, Japan
4/2024 – 8/2024

Academic Exchange - *Tokyo Institute of Technology*
Courses in high performance computing, lambda calculus, distributed algorithms...

Grenoble, France
2019 – 2021

Pre-engineering preparation to French "Grandes Ecoles" - *Prépa des INP*
Ranking: *1st/400*
Intensive courses in maths, physics, computer science and chemistry.

Grenoble, France
2016 – 2019

French High School Diploma
Awarded with highest honors *(19,18/20)*

Experience *(non exhaustive, more info on my website)*

Paris, France
9/2024 – 3/2025

Internship at Dassault Systèmes
Generated a procedural global cloud cover for a planetary environment that runs in real-time. Improved the rendering of those clouds by reworking the team's existing volumetric clouds algorithm.

Echirolles, France
5/2023 – 8/2023

Internship at Eviden Atos
Added visual effects (fire and rain) to an application based on NVIDIA Omniverse that aim for generating synthetic datasets.

Grenoble, France
9/2022 - 12/2022

Part-time job at the Grenoble Informatics Laboratory (LIG)
Studied scientific literature to make a state-of-the-art on the transposition of nudges from a domain to another, especially to the numerical domain.

Projects *(non exhaustive, more info on my website)*

Cloth simulation from scratch C++, CUDA (API), OpenGL (API) | solowork | personal project
Simulation of a cloth using CUDA/OpenGL interoperability that takes into account collisions between the cloth and static/dynamic objects. A full report about this project is available on my website.

3D multiplayer game from scratch Rust, OpenGL (API) | teamwork (4 members) | school project
Navigation game taking place in an open, realistic procedural world. Members can connect to a local server and navigate through the infinite ocean on a fully controllable boat as well as walk on the islands using custom-made physics collisions and buoyancy.

Raytracer from scratch C, SDL (API) | solowork | personal project
Graphical interface allowing users to create lines and curves (splines) on a screen and cast light (rays) against them using exact intersection computations.

Skills

Languages - French *(mothertongue)*, English *(C1, fluent)*, Spanish *(B1)*, Japanese, Arab
Programming languages - C, C++, Python, Java, Rust
APIs - OpenGL, CUDA, OpenUSD, *(via NVIDIA Omniverse)*, OpenMP, MPI
Tools - VSCode, Jetbrains suite, RenderDoc, Nsight Compute

Main interests

Music *(clarinet, guitar)*, **Climbing***(bouldering/lead)*, **Reading** *(scientific literature, comedy, fantasy, science fiction...)*, **Cooking/Eating**, **Drawing**, **Learning new languages**...