Hélène HASSAN

A highly passionate and hardworking student who has begun her last year in an Engineering school specialized in applied mathematics and computer science, achieving excellent grades in first year. Prospective career goal is to become fully qualified in the field of 3D programming and simulation.

Contact

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Personal website

helenhsn

Grenoble, France

Languages

- French (mother tongue)
- English (C1, TOEFL iBT score of 98/120 : R:26/L:25/S:23/W:24)
- Spanish (B1+)
- Japanese (A2)
- Arab (A1, spoken)

Skills

Programming languages/APIs

C/C++ | Java | Python | Rust | OpenGL (modern and old) | Cuda | OpenUSD | Vulkan (~)

Programming tools

VSCode/Jetbrains suite | RenderDoc | Git

Office

Google suite | Obsidian | LaTeX

Interests

Music *(clarinet, guitar)*
- Certificate in music studies in clarinet

Climbing *(bouldering, rock climbing)*

3D Rendering, physics simulation

Reading

Drawing

Education

Since September 2021
Engineering Degree (ENSIMAG)
Graduate School of Engineering in Applied mathematics and Computer Science, Grenoble.
***Specialty**: computer graphics, computer vision, mathematical simulation and high performance computing.*
***Ranking** (first year): 4/250*

September 2019 – June 2021
Pre-engineering preparation in maths, physics, computer science for the entrance to French "Grandes Ecoles"
***Rank**: 1/400*

September 2016 – June 2019
French High School Diploma (Baccalauréat) awarded with highest honors (19,18/20)
Main subjects: maths, physics, biology, chemistry.

Professional experiences

22 May 2023 - 31 August 2023 (~3 months)
Engineer assistant Internship at Eviden Atos
Worked in a R&D team that builds an application to generate synthetic datasets using NVIDIA Omniverse platform. Added visual effects (fire and rain) inside the application using Omniverse ecosystem.

22 September 2022 - 31 December 2022 (~3 months)
Engineer assistant at the *Grenoble Informatics Laboratory (LIG)*
Studied of scientific literature on the transposition of nudges from a domain to another, especially to the numerical domain.

November 2021 - February 2022 (4 months)
Tutoring at la Prépa des INP
Gave courses related to mathematics, physics and chemistry to two first-year students who experienced difficulties in these classes.

Projects

- **3D multiplayer game and game engine created from scratch**

February 2023 - May 2023 | Rust, OpenGL | teamwork (4 members) | SCHOOL PROJECT
BlackSeas is an exploration 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 thanks to custom-made physics collisions and buoyancy.

- **Simulation of a volcano island**

February 2023 - April 2023 | Python, OpenGL | teamwork (2 members) | SCHOOL PROJECT
3D Scene using many computer graphics concepts, some of which are: a procedural volcano island, keyframes animated windmills and animals, volcano eruptions simulated with particle systems, procedural ocean using the Fast Fourier Transform algorithm.

- **3D scenes from scratch**

October 2022 | GLSL | solowork | PERSONAL PROJECT
Generation of various scenes on shadertoy.com in order to learn the basics of 3D programming. (raymarching, lighting/shadowing, raytracing, noise functions, signed distance fields…)

- **Raycaster in C using SDL library from scratch**

August 2022 - September 2022 | C | 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.

- **Library for graphical interfaces from scratch**

May 2022 | C | teamwork (3 members) | SCHOOL PROJECT
Library that uses the concept of widgets and geometry managers to place elements on the screen. This library handles the addition of new types of widgets and geometry managers by the user.