Arthur Gouinguenet (24)

Engineer in High Performance Computing

R&D Engineer specializing in computer graphics simulations. Proficient in problem-solving and collaborative teamwork. Seeking full-time employment opportunities starting June 2025.

Information

Nice, France

22 Decembre 2000

arthur.gouinguenet@free.fr

+33 6.51.00.69.02

Computer skills

- Python
- C++
- Fortran
- MPI / OpenMP
- OpenGL / Cuda / OpenACC
- Abaqus / AVBP / DIOGENeS
- Blender
- Unity
- Latex / Office Suite

Language skills

- French: native speaker
- English: B2 (Toeic 850)
- Italian: A2
- Good knowledge of LPC (it's the french cued speech, permitting to communicate with deaf persons)

Interest

- Tricking and gymnastics
- Digital sculpting and modelling
- Piano
- Hiking
- Apnea
- Motorbike

Education

2022-2023 **Specialisation Semester at Graduate School of Grenoble** *High Performance Computing*
Focused on computer graphics, with coursework covering HPC, GPU computing, rendering, animation, and mathematical optimization.

2020-2023 **M.Sc at Graduate School of Bordeaux** *Mathematics and Mechanics*
Learning to develop numerical simulation to solve solid and fluid mechanics real physical problems.

2018-2020 **C.P.G.E at Lycée Masséna** *Physics and Engineering Science*
A 2-year intensive curriculum in mathematics and physics, preparing students for entrance examinations to engineering schools in France.

2015-2018 **High school at Lycée Masséna** *Science*
Specializing in mathematics and physics.

Experience

2024 *(1 year)* **R&D Engineer HPC developer** *INRIA Shopia-Antipolis*
Ported DIOGENeS, a HPC nanophotonics code, on GPU using OpenACC. Performed numerical design optimisation of Meta-surface.

2023 *(6 months)* **HPC Engineer Intern** *CERFACS*
Ported a fluid mechanics code on GPU using OpenACC and OpenMP. Developed coding tools for benchmarking and code autocompletion.

2022 *(4 months)* **Engineer Intern** *I2M Bordeaux*
Automated testing for the non-regression of Notus, a massively parallel code for Computational Fluid Dynamics, using Python scripts.

Project

Personal Project

GPU Cloth: Blender Add-on (Blender extension page) which uses Taichi python library to develop portable GPU code for simulating soft Body in real time, achieving faster performance than Blender's simulation system.

Simuscle: Proof-of-concept product (with website) linked with Blender add-on for muscle simulation. Simuscle is developed in C++, using OpenGL and DearImGui.

Peleiz & Hanisa: 1-weekend Game Jam creation of a small game in a team of 8, primarily focusing on graphics and animations (link).

School Project

Designed and implemented various codes and simulators, including:

Ray tracer,
Motion capture app,
Rigid body simulator,
Wavelet Galerkin solver,
Pyrolysis simulation,
Finger biomechanics,
Ankle model code,
Linear algebra solveur library