Louis Peyrondet

ENGINEERING STUDENT IN COMPUTER SCIENCE

Bordeaux, France | louis.peyrondet@hotmail.com | My Portfolio | github.com/PoroCoco

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Education

ENSEIRB-MATMECA, Bordeaux Graduate School of Engineering, France, 2022 – 2025
Engineering Degree in Computer Science, Specialization in HPC

- **Coursework:** Computer Architecture, Parallel Algorithms, System Programming (C), OOP (C++, Java)

Keio University, Tokyo, Japan, Computer Science, Semester abroad Spring 2024

- **Coursework:** Advanced Visualization, Computer Vision, Virtual Machines, Databases

University of Bordeaux, France, Computer Science 2020 – 2022

- **Ranked first** among all students in the Computer Science department
- **Coursework:** Data Structures and Algorithms, Networking, Probabilities, Functional Programming (OCaml)

Experience

Research Intern, INRIA (French Institute for Research in Computer Science) June 2023 – Aug 2023

- Designed and implemented in C a decentralized version of an I/O scheduler for Parallel File Systems
- Engineered a way to allow parallel service, removing a linear scaling in the I/O scheduling
- Presented previous work at the French Conference in Parallelism, Architecture and System (Compas) Annecy July 2023

Research Intern, INRIA (French Institute for Research in Computer Science) June 2022 – Aug 2022

- Worked on studying and improving I/O performances of a finite element simulation HPC library
- Improved I/O times by 90% using MPI-IO
- Collaborated with the Brazilian National Laboratory of Scientific Computation (LNCC)
- Published and presented a paper in an international conference : SBAC-PADW Bordeaux Nov. 2022

Publications

I/O performance of multiscale finite element simulations on HPC environments Nov 2022
Francieli Boito, ***Louis Peyrondet***, Antonio Tadeu A. Gomes, Luan Teylo
10.1109/SBAC-PADW56527.2022.00012

Projects

Voxel Game Engine 2024

- Renders in real time at over 120 fps, more than 4 Billion voxels by leveraging multi-threading and optimizations
- Built from scratch using C and OpenGL

Operating System for RISC-V Processors 2024

- Independently taught OS concepts to three undergraduates through the team development of an operating system from the ground up in C
- Features virtual memory, process management, system call and exceptions, basic I/O, user space programs

Skills

Programming Languages:

C, Python, C++, Lua, Java, JavaScript, Bash

Tools:

Git, CMake, OpenMP, CUDA, pthread, MPI, OpenGL, Vulkan, Unity, OpenCV, Numpy, Matplotlib, LaTeX, Linux, VSCode

Languages:

- French: Native
- English: C1 IELTS Certified
- Japanese: Elementary
- Spanish: Elementary