

EDUCATION

École Normale Supérieure de Lyon

A highly selective French university, mainly focused on research and education

Lyon, France

2024–auj.

- Licence 3/Prémaster (eq. BSc): Algorithmic I/II, Programming, Logic, Programming Language Theory, Foundations of Computer Science, Probability, Functional Programming Project, Group Theory and Linear Algebra, Lebesgue Integration and Measure Theory, Introduction to Category Theory
- Master 1 (eq. 1st year of MSc): Optimization, Parallel and Distributed Algorithms and Programs, Semantics and Verification, Compiler and Program Analysis, Quantum Computer Science, Cryptography and Security, Integrated Project
- Took some $\LaTeX$ notes of the lectures, available on GitHub (Licence 3/Prémaster [↗](#), Master 1 [↗](#))

École Centrale Nantes

A selective French School of Engineering conferring a diploma equivalent to a Master's Degree (1st year only)

Nantes, France

2023–2024

Lycée Clemenceau – MP2I/MPI*

A 2-year intensive pre-engineering competitive entry program centered around Mathematics, Physics, Computer Science

Nantes, France

2021–2023

- Class representative in second year
- Took some $\LaTeX$ notes of the lectures (Mathematics and Computer Science), available on GitHub (MP2I [↗](#), MPI* [↗](#))

ACADEMIC EXPERIENCE

Formal proof of the Classification of Covering Spaces in Homotopy Type Theory

Research internship at the LIX laboratory, École Polytechnique (*report* [↗](#), in English)

Palaiseau, France

June–July 2025

- Eight-week internship supervised by Samuel MIMRAM [↗](#) and Émile OLEON [↗](#)
- Formal proof in Cubical Agda [↗](#) of the article by Samuel MIMRAM and Émile OLEON [↗](#)

TUTORING

Computer Science Oral Exams “colles” in MP2I/MPI/MPI*

For the first-year students at Champollion high-school

2025–now

Grenoble, France

- Wrote exercises adapted to the notions seen in class
- Designed a custom “document distribution system” that allows students to submit their code for review

Mock Computer Science Oral Admission Exams in MP2I/MPI/MPI*

For the second-year students at Clemenceau high-school, Nantes, France

2024, 2025

- Wrote various exercises covering most of the MP2I/MPI/MPI* program (some exercises are openly available on my tutoring page [↗](#))
- Organized 37 half-hour mock oral exams (14 in 2024, 23 in 2025)
- Organized three-hour mock labs for 10 students (7 in 2024, 3 in 2025)

Computer Science Tutor at Clemenceau high-school

Tutored second-year students in Computer Science

2023–2024

Nantes, France

- Created and modified various exercises (theoretical and programming)
- Designed interactive tools (a finite automaton editor/playground, and a proof tree editor) to help students ([website](#) [↗](#))
- Tutored three first-year students (MP2I) in Mathematics, Physics and Computer Science (they were admitted to Télécom Paris and Télécom Nancy)

PROJETS

Interactive Mini Proof-Assistant à la Coq in OCaml [↗](#)

Realized with Thibaut BLANC as part of the Functional Programming Project at ENS de Lyon

April 2025–June 2025

- Dependent typing
- Support of the Calculus of Inductive Constructions
- Management of an universe hierarchy

- Definition of several tactics (including the inversion tactic)
- Built a VSCode extension that communicates with the Proof Assistant [↗]

OCaml interpreter written in OCaml [↗]

Realized with Thibaut BLANC as part of the Functional Programming Project at ENS de Lyon

February 2025–April 2025

- Evaluation of OCaml expressions including side effects
- Inference and polymorphic typing of expressions (definition of new types and handling of the *weak* types)
- Database of 5784 sample codes, we compare this interpreter's behaviour with utop's
- Translation in *Continuation Passing Style* of a given OCaml code and β -reduction optimizations

OCaml interpreter with linear polymorphic typing [↗]

Supervised by Daniel Hirschhoff (LIP) [↗]

April 2025–now

- Extension of the OCaml interpreter (*c.f.* above)
- Polymorphic type inference for linear types
- Based on J. Garret Morris's article *The Best of Both Worlds: Linear Functional Programming without Compromise* [↗] (linear typing in Haskell)

Interactive tools for Computer Science students [↗]

Realized as part of my tutoring at Clemenceau high-school, Nantes

September 2023–June 2024

- Built a finite automaton editor/playground (construction based on a regular expression, removing ϵ -transitions, minimisation, *etc*), link to the editor [↗]
- Designed a proof-tree editor that checks correctness of the tree (linguistic logic and classical logic), link to the editor [↗]

Mini research project: What impact does the structure of a city has on an epidemic's response? [↗]

Realized in MP2I/MPI*

February 2022–June 2023

- Simulated of epidemics that spread in a city (Paris, Lyon, Nantes, Mulhouse) with a multi-agent model
- Code written in Julia, with parallelization of simulations
- About 500'000 epidemics simulated in total
- Analysis of the simulation's results

PROFESSIONAL EXPERIENCE

IFREMER [↗]

HR Access data historization (*report* [↗], in French)

Brest, France

June–July 2024

- Six-week professional internship in the **INGE** team (Administrative information systems)
- Detected of changes in more than 2400 PL/SQL tables
- Designed a user-friendly-interface for this data
- Created a technical documentation [↗] (in french)

Tactile Studios [↗]

Data Analyst Intern at Tactile Studios

Nantes, France

January–May 2024

- Collaboration of École Centrale de Nantes, Tactile Studios, and the Château des ducs de Bretagne museum
- Worked with 5 other students
- Analyzed data coming from different data-sources (paper surveys with OCR, sensors)
- Visualized data to show trends and patterns

IT SKILLS

- **Programming:** OCaml, C, C++, JS, Python, Julia
- **Tools:** $\LaTeX$, Typst, Git, Agda, Rocq, SQL
- **Web:** HTML/CSS, JavaScript, Typescript, React.js

LANGUAGES

- **English:** fluent, C1 level (CAE [↗] : 194, Grade B ; TOEIC : 955/990)
- **French:** native language
- **Spanish** high-school level