

YANN AGUETTAZ

Student at ENS de Lyon, First year Master of Computer Science

@ yann.aguettaz@ens-lyon.fr
yann.aguettaz.me

@ yann@aguettaz.me
yann-a

+336 51 00 01 70
September 30th, 2001 (19 years-old)

Chambéry, France

EDUCATION

1st Year Master in Computer Science

ENS de Lyon

Sept 2020 - Present

Lyon, France

Courses (*First Semester*):

- **Information Theory** : Shanon entropy, Data compression, Channel coding, Error-coding codes
- **Performance Evaluation and Networks** : Performance evaluation, Communication networks, Analysis, Prediction
- **Compilers and Program Analysis** : Semantics and typing of programming languages, Compilation, Code generation, Optimization
- **Parallel and Distributed Algorithms and Programms** : Sorting networks, PRAMs, Processors topology, Distributed algorithms, Task scheduling graphs, IMP C library
- **Optimization and Approximation** : Constrained optimization, linear programming, Optimization methods, Non-linear optimization, Simplex algorithm
- **Quantum Information and Computation** : Quantum systems modelization, Quantum circuits, Shor's and Grover's algorithms, Quantum query algorithms, Geometry of the set of separatable states

Second semester courses : Cryptography and Security, Computational Complexity, Distributed Systems, Programs and Proofs, Data Bases and Data Mining, Computational Geometry and Digital Images, Machine Learning

Programming project : Group project with 10 other students. Rework and enhance a platform used at ENS to teach programming to first year students.

Bachelor in Computer Science

ENS de Lyon

2019 - 2020

Lyon, France

Graduated with 16.98/20 and the 'Très Bien' (Very good) distinction.

Courses :

- **Algorithmics (Both Semesters)**: Paradigms, Complexity and Complexity classes, Amortized analysis, Randomized algorithms, Data structures, Graphs and words algorithms
- **Programming languages theory** : Induction, Operational semantics, Floyd-Hoare logic, Type systems, Rewriting, Coq proof-assistant
- **Computer Science Foundations** : Finite state machines, Context-free grammars, Turing machines, Church-Turing thesis, Lambda calculus, Decidability, Complexity theory
- **Architecture, Systems and Networks (Both Semesters)**: History of computation, Information coding and transmission, Combinatorial and Sequential logic, RISC architecture, Memory notions, FPGAs, Operating systems, Virtualization
- **Algebra** : Linear algebra, Bilinear forms, Duality, Tensor product, Quadratic forms, Groups and Representations, Sylow theorems
- **Programming Projects** : Mini-projects in C / C++ / Ocaml /Python/Haskell/Er-lang, Competitive programming (ACM-like), OCaml interpreter in Ocaml and π -calculus interpreter in Go

INTERESTS

Computer Science

Cryptography, Cybersecurity, Privacy, Information Theory, Quantum computation & applications, Compilation

Other interests

- Diffusion of knowledge, vulgarization
- Politics, Linguistics

Personal

DIY, Ski, Photography, Board games

SKILLS

Languages

French (Native)

English : C2 (*Cambridge Advanced at grade A*)

German : B1 level (*Deutsches Sprachdiplom*)

Technical Skills

Python, Ocaml, Go, Rust, C, C++

Web : HTML5, CSS, PHP, MySQL, Javascript

Tools : Git, \LaTeX , Docker

EXPERIENCE

Research Internship

VeriQcloud

June - July 2020

Paris, France

Quantum protocols for multiparty secured computation (MPSC).

- Study of some classical MPSC protocols
- Definition of quantum general protocols
- Comparison with the classical ones

PROJECTS

Panda & Pingo

- Ocaml interpreter written in Ocaml, and π -calculus interpreters written in Go, with type-checking and type inference.
- Bachelor projects in groups of two

FicWebboard

- Master project with 10 other students. Rework and enhance a platform used at ENS to teach programming to first year students.

Beamer.js

- Personal project : Slides system in a 3d space, fully written in HTML/CSS/Javascript for in-browser use

- **Mathematical Logics** : Naive set theory, First-order logic, Axiomatic systems, Completeness and Compactness, Gödel's incompleteness theorem
- **Probability** : Inequalities, Randomized algorithms, Markov chains, Convergence results
- **Physics, Information and Calculus** : Quantum mechanics, Thermodynamics, Introduction to Information Theory and Quantum calculus

Preparatory Classes (MPSI and MP*)

Lycée Champollion

📅 2017 - 2019

📍 Grenoble, France

Two-years undergraduate intensive courses in mathematics, physics and computer science. Preparation for the national competitive exams for entry to engineering and research schools.

High School

Lycée Monge

📅 2014-2017

📍 Chambéry, France

Major in Mathematics, Engineering science option.

EXTRACURRICULAR

Secretary of Bureau Ludique de l'ENS de Lyon

- Association that offers recreational activities at ENS de Lyon, including board games, role games and singing.

Volunteer at ENSeigner, ENS de Lyon

- Tutoring for high-school students in mathematics.

Administrator at AliENS, ENS de Lyon

- Association for the development of free software
- Proposes free online services to students
- System administration

Prologis 2020

- French algorithmics national contest. Selected for the final, canceled due to the sanitary situation.

Brigitte Friang Challenge (Nov. 2020)

- Cybersecurity challenge in team, organised by the DGSE. 6th place