

Ulysse Durand

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Education

Ecole Centrale Lyon , General Engineering & Software Development Double Masters Degree with ENS Lyon	Ecully, France 2024 – 2026
ENS Lyon , Computer Science Double Masters Degree with Centrale Lyon	Lyon, France 2023 – 2026
ENS Lyon , Fundamental Computer Science Bachelor Degree	Lyon, France 2022 – 2023
CPGE Blaise Pascal , Mathematics, Physics, Computer Science, Engineering Preparatory Classes for Elite Schools (CPGE), MPSI	Clermont-Ferrand, France 2019 – 2022
Lycée Niepce , Science French Baccaalaureate	Chalon-sur-Saône, France 2019

Experience

Kitware (Repo) , Engineering Intern Internship at Kitware, software development around the trame framework for Scientific and Medical visualization	Villeurbanne, France Apr 2026 – Aug 2026 5 months
Mahindra University (Repo) , Research Intern Research on EEG-conditioned Image generation models, running experiments, proposing a new metric, leading to a paper submission	Hyderabad, India Apr 2025 – July 2025 4 months
AdaCore (Repo) , Engineering/Research Intern Formal proofs on the post quantum cryptographic algorithm ML-KEM using Ada/SPARK	Toulouse, France Apr 2024 – July 2024 4 months
Logic, Semantics and Categories team (LIS & I2M) (Repo) , Research Intern Formalizing and proving game semantics in Rocq	Marseille, France May 2022 – June 2022 2 months

Projects

Visual Autoregressive Model with WGAN Image generation (Repo) In a group of 2, reproduce the VAR model and try to enhance it using the Wasserstein distance	Nov 2025
Music Reacting LED Garland (Repo) Embedded system, music reacting garland with a Teensy4.0 for Music Information Retrieval and ESP32 for WiFi interface and LED control	Oct 2025
CAD Software for virtual reality with Unity (Repo) Technical Project Manager in a 7-person team, with ASSYSTEM as client, done with Unity/C#, agile management	Oct 2024 – Apr 2025
Hiking trip planification assistant with Python/JS (Repo) Technical Project Manager in a 5-person team, using LidarHD data to automatically map hiking routes off-trail	Oct 2024 – Apr 2025

OCaml interpreter coded in OCaml (Repo) Coursework, uses Lex and Yacc	2023
MiniC (subset of C) compiler to RISCv (Repo) Written in Python, uses ANTLR4 for lexing and parsing and implements three-address code generation, liveness analysis, CFG, SSA, Smart Register Allocation, Conditional Constant Propagation	2023
Automatic proof in formal grammars (Repo) Attempt at deciding membership problem for CFGs, reasoning on number of symbols in words. Implementation in OCaml	2021 – 2022
Naïve parsing and evaluation in OCaml (Repo) Naïve attempt at building an OCaml parser and walker for math expressions with a new type of automaton (writer with memory). Also includes math expression differentiation, evaluation and simplification	2020 – 2021
3D Scanner from cast shadows under multiple angles (Repo) Reconstructs a 3D mesh of an object from its shadows under different angles. One implementation is in C++ and uses the Marching Cubes algorithm, the other one is in Python and computes shapes intersection	2019

Skills

Advanced expertise: Rocq, Ada/SPARK, OCaml, Python

Normal expertise: C++, Cuda, PyTorch, Docker, Git, GitLab-CI, Unity/C#, C, Haskell, Rust, Web Development, Java

Languages: English (Cambridge C1 Advanced), French(native)

Extracurricular Activities

- Competitive Programming, PrologIn finalist in 2022
- Organizer of week long hike tours for 10 to 20 persons every summer (2020-2023)