

Damien LEJOSNE

ENS Rennes - Computer Science

About me

I am currently a student in the third year of the diploma of École Normale Supérieure (ENS) Rennes, 2nd year master [MPRI](#).

My main field of interest are Verification and Formal Methods, Cyber Physical System and Dynamic Systems. As a hobby, I also like Computer Graphics.

Contact

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[Personal Website](#)

[newos20](#)

Diplomas and certificates

TOEIC English Certificate (2026)

- B2+ level

BAFA

- First part done, expected termination date : 2027

Contests

[SWERC 2024](#)

- 72th/171

[TFJM 2022](#)

- 3rd

[Prologin 2022](#)

Skills

- Programming : C, C++, **Rust**, **OCaml**, Haskell, **Python**, HTML/CSS, **Lua**, **Lean**, Rocq, Modelica
- Software tools : **Git**, **Linux shell**
- API : OpenGL, WGPU, Love2D, numpy, matplotlib, TCP/UDP
- Utility : XCas, Sympy
- Office : Latex, Typst, Markdown

STUDIES

Today | **Université Paris Cité - Paris**

- 2nd year of Master MPRI ("Master Parisien de Recherche Informatique")

2026 | **École Normale Supérieure de Rennes (ENS Rennes) - Bruz**

- 1st year of Master SIF ("Science Informatique")
- 3rd year of License, Mathematics ("Mathématiques Fondamentales") *high honours*

2025 | **École Normale Supérieure de Rennes (ENS Rennes) - Bruz**

- 3rd year of License SIF ("Science Informatique") *high honours*

2024 | **Lycée Aux Lazaristes - Lyon**

- CPGE MP2I-MPI* (equivalent to licenses 1 and 2 of Mathematics, Computer Science and Physics). Admitted to ENS Rennes as "fonctionnaire stagiaire".

2022 | **Lycée Saint Ambroise - Chambéry**

- 9th grade up to 12th grade / Year 10 up to Year 13 (*baccalaureat with highest honours*)

PROFESSIONAL EXPERIENCES

07/2026 | **M1 research internship, team CVG, Fraunhofer HHI - 10587 Berlin**

Internship supervised by [Wieland Morgenstern](#)

Compact 3D Scene Modeling and 3D Gaussian Splatting Compression.

I integrated a post-processing tool in the pipeline we were using, and tried to tackle the problem of best view selection using gradient descent on custom losses.

05/2026 | **M1 research internship, team HYCOMES, INRIA - 35000 Rennes**

09/2025 | Research project (one day a week), continuing my L3 internship.

07/2025 | **L3 research internship, team HYCOMES, INRIA - 35000 Rennes**

Internship supervised by [Khalil GHORBAL](#) and [Benoit CAILLAUD](#)

Formal verification of a power system.

I found differential invariant for a simple power grid model, and then proved in Lean that the system was secure. I also modelised the system using Zelus and then OpenModelica.

05/2025 | the system was secure. I also modelised the system using Zelus and then OpenModelica.

MY MAIN CODING PROJECTS

Formal methods

- **[Herbrand Solver](#)** - OCaml
 - ▶ Project carried out at ENS Rennes as a support for a presentation about Herbrand theorem.
 - ▶ The code determine if first order logic formula are invalid using Herbrand theorem (of course it can loop ad eternam).
- **[PROLOG Inferator](#)** - OCaml
 - ▶ Project carried out as part of a 3-day practical course at ENS, in groups of three.
 - ▶ The code infers PROLOG rule sets and then determines the truth of a predicate or assigns the free variables left to make it true.

Hobbies

- Sports : badminton, running, ski, walk
- Sailplane
- Astronomy
- Reading : Mostly science fiction and fantasy
- Instrument : Trumpet (orchestre & fanfare at ENS Rennes)

Misc

- Driver license (permis B)
- Sailplane pilot license

Computer Graphics

- **Software path tracer** - C
 - Project carried out in parallel with my MP2I then completed in MPI*.
 - Displays spheres using various shading techniques, with raytracing. Refractions, reflections, shadow, caustics.
- **GLDEMO** - C++
 - A library and demo made for a 64k demo contest, the API8 contest.
- **SNAKE3D** - C++ :
 - A small video game where you control a moto. Lot of fancy effects, on 64Ko. Made in C++ & OpenGL.

Misc

- **wificommand** - C
 - A code to control a sailplane using wifi, with an esp8266 and a phone / computer.

There are some over projects I made on my [Github](#) and my [Codeberg](#).