

## PROFILE

Final-year engineering student at ENSIMAG (Mathematical Modeling, Image and Simulation track), on exchange at Politecnico di Milano in artificial intelligence. Interested in applying theoretical machine learning concepts to real-world problems. I really enjoy discussing ideas and am always looking for opportunities to learn from others. I am looking for a **6-month final-year internship starting March 2027** in **machine learning** or **data science**.

## SKILLS

|                         |                                                                                                                                 |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Machine learning</b> | Deep neural networks, generative models, supervised and unsupervised learning, stochastic optimization, evolutionary algorithms |
| <b>Programming</b>      | Python (PyTorch, NumPy, pandas, scikit-learn, Matplotlib), C, C++, Java, OCaml, SQL                                             |
| <b>Mathematics</b>      | Probability and statistics, numerical optimization, linear algebra, numerical analysis and PDEs, image processing               |
| <b>Tools</b>            | Git, Linux, LaTeX, Jupyter                                                                                                      |
| <b>Languages</b>        | French (native language), English (C1, TOEIC 985/990), Italian (basic)                                                          |

## EXPERIENCE

### Research internship in generative models (*flow matching*)

June-July 2026

*Data Intelligence team, Hubert Curien laboratory, Saint-Étienne*

- Accelerated the computation of the exact velocity field via spatial clustering, with controlled error.
- Implemented in Python and evaluated on MNIST: image quality versus computational cost.

## EDUCATION

### Politecnico di Milano, exchange semester in Artificial Intelligence

Sept. 2026 to Feb. 2027

*M.Sc. Computer Science and Engineering, courses taught in English, Milan (Italy)*

- Artificial Neural Networks and Deep Learning, Computational Statistics, Image Analysis and Computer Vision, Data Mining, Recommender Systems.

### ENSIMAG, Engineering Degree, MMIS track

2024-2027

*Grenoble INP - UGA: mathematical modeling, image and simulation*

- Introduction to artificial intelligence, numerical optimization, dynamical systems, PDE models and numerical schemes, databases, C++ for applied mathematics, image processing, among others.

### CPGE MP2I then MPI\*

2022-2024

*Lycée Fénélon Sainte-Marie, Paris*

### General Baccalaureate, Highest Honors

2022

*Lycée International Honoré de Balzac, European section, Paris*

## PROJECTS

### Image generation via *flow matching* (U-Net)

2026

*Personal project in Python*

- Implemented a U-Net in Python and trained a *flow matching* model on MNIST.
- Generated handwritten digit samples via numerical integration of the learned velocity field.

### Communicating neural agents trained via genetic algorithm

2024-2025

*Personal project in C, no external libraries, github.com/Paroxyss/football*

- Football simulation: each player is a neural network trained via tournament selection.
- Goal: measure what a communication channel between players contributes to collective play.

**Science outreach** | interactive articles: backpropagation, JPEG compression, among others, cyprien-henner.com

## VOLUNTEERING AND INTERESTS

**Volunteering** | Red Cross, 2h/week workshop for people in situations of digital exclusion (2024-2025)**Sports** | trail running, running and club swimming