

# Edgar Desainte-Maréville

📍 ENS Lyon    ✉ edgar.desainte-mareville@ens-lyon.fr    ☎ +33 7 86 49 93 10  
🌐 <https://edgardesaintemareville.github.io>    🌐 EdgarDesainteMareville

## Experience

### PhD student

ENS Lyon, Inria OCKHAM team

Lyon, France

Nov. 2024 – Present

- Supervisors: by Elisa Riccietti, Paulo Gonçalves and Nelly Pustelnik.
- Second order and learning-based multilevel methods for solving inverse problems.

### Research Intern

MaLGa, University of Genoa

Genoa, Italy

Apr. 2024 – Sept. 2024

- Supervised by Matteo Santacesaria and Giovanni S. Alberti.
- Continuous generative models using pseudo-differential operators within variational autoencoders.

## Education

### Ecole Centrale de Lyon

2020 – 2024

Engineering degree, specialization in Applied Mathematics

- Relevant courses: Theoretical and numerical study of partial differential equations, probabilities, statistics, applications of PDEs to environmental science.
- Project: Mathematical study of a flow in a porous medium, under the supervision of Matthieu Bonnivard.

### Université Lyon 1

2023 – 2024

Maths en Action Master's in applied mathematics

Relevant courses: Fluid mechanics equations, ecological graphs and networks, statistics for climate risk modeling, optimal transport.

## Teaching

### INSA Lyon

2024 – 2025

- First-year of Master's in electrical engineering: Introduction to probability and statistics - lectures and tutorials (*in French*).
- FIMI GLOBALINSA - 2nd year: Mathematics - numerical series, power series, bilinear algebra - tutorials (*in English*).

### Lycée du Parc, Lyon

2023 – 2024

Oral exams in mathematics (*colles*) for second-year students in the MP preparatory class.

## Publications

### A multilevel approach to accelerate the training of Transformers

Apr. 2025

Guillaume Lauga, Maël Chaumette, Edgar Desainte-Maréville, Arthur Lebourrier, Etienne Lasalle.

Accepted at GRETSI 2025. <https://arxiv.org/abs/2504.18590> [🔗](#)

## Technologies

**Languages:** French (native), English (fluent), Italian (intermediate), Spanish (intermediate).

**Programming:** Python (PyTorch), Matlab, Git.