

Etienne Marion

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Summary

I am studying Mathematics at École Normale Supérieure de Lyon. I completed my M.Sc. in probability and statistics and am now doing research internships before starting my PhD next year. I am mainly interested in probability theory applied to population genetics and formalization of Mathematics using the proof assistant Lean.

Education

- 2023 – 2025 **École Normale Supérieure de Lyon**, MS in probability and statistics – Lyon, France
- 2022 – 2023 **École Normale Supérieure de Lyon**, BS in mathematics – Lyon, France
- 2020 – 2022 **Lycée Georges Clemenceau**, Classe préparatoire in mathematics and physics – Reims, France

Research experience

- Feb 2026 – July 2026 **Research intern**, MAP5, Université Paris-Cité – Paris, France
Supervised by Félix Foutel-Rodier: *Impact of demographic fluctuations on structured populations genealogies.*
- Sept 2025 – Jan 2026 **Research intern**, University of Vienna – Vienna, Austria
Supervised by Emmanuel Schertzer: *Diffusive neutral fractions inside a genetic population.*
- Mar 2025 – July 2025 **Research intern**, École Normale Supérieure de Lyon – Lyon, France
Supervised by Jean-Christophe Mourrat: *Study of functions learnable by neural networks using mean-fields approximation.*
- May 2024 – July 2024 **Research intern**, Institut de recherche mathématique de Rennes – Rennes, France
Supervised by Sébastien Gouëzel: *Formalization of the Ionescu-Tulcea theorem and construction of infinite products of probability measures with Lean.*
- May 2023 – June 2023 **Research intern**, Laboratoire Jean Kuntzmann – Grenoble, France
Supervised by Sana Louhichi: *Tight sequences of random variables: definition, examples and application.*

Preprints

- 2025+ **Formalization of Brownian motion in Lean**
Rémy Degenne, David Ledvinka, Etienne Marion, Peter Pfaffelhuber
arxiv.org/abs/2511.20118
- 2025+ **A Formalization of the Ionescu-Tulcea Theorem in Mathlib**
Etienne Marion
arxiv.org/abs/2506.18616

Talk

- Jan 2026 **A Formalization of the Ionescu-Tulcea Theorem in Mathlib**
Lean Together 2026
www.youtube.com/watch?v=_TrTKnWU-to

Participation to conferences

Apr 2026: I was present at the 3rd annual meeting of the GdR Branchement in Avignon.

Sept 2025: I was present at the workshop Ancestral lines in population models with interaction at BOKU University, in Vienne.

June 2025: I was present at the summer school Local Limits of Random Graphs at Institut de Mathématique d'Orsay.

Mar 2024: I was present at the conference Lean for the curious mathematician at CIRM.

Other activities

I am part of the Mathlib reviewer team. I am assessing the mathematical relevance and the quality of the code that contributors wish to add to the library, especially in the probability section.

Sept - Dec 2023: With three fellow students we gave an introductory course to category theory, shaped as a weekly seminar.