

Emmanuel Gnabeyeu Mbiada

Ecole Doctorale SMPC 386, Laboratoire de Probabilités, Statistique et Modélisation (LPSM)
4 Place Jussieu, Pierre et Marie Curie Campus, 75005 Paris, France

Phone: +33 6 41 27 36 46 Email: emmanuel.gnabeyeu-mbiada@polytechnique.org
LinkedIn: emmanuel-gnabeyeu-18b2bb20b GitHub: Emma-Gnabeyeu Google Scholar: Emma-G

Profile

Doctoral Researcher in Applied Mathematics, and Artificial Intelligence at Sorbonne Université (LPSM), passionate about bridging theory and applications. Research interests include Reinforcement Learning, Stochastic Analysis, Stochastic Optimal Control, Stochastic Optimization for Machine Learning, Bayesian Statistics, Langevin Score's based Diffusion Models, Probabilistic Modelling, and Probabilistic Machine Learning.

Academic Background

- 2024–2027 **Ph.D. Researcher in Mathematics and Applications** — Sorbonne Université & Université Paris Cité, Laboratoire de Probabilités, Statistique et Modélisation, Paris, France.
- *Thesis: Volterra Equations, Asymptotic Stationarity and Applications.*
- 2023–2024 **MPhil/M.Sc. in Applied Mathematics and Statistics (Track Probability and Finance)** — Sorbonne Université & Institut Polytechnique de Paris, France. *Highest Honours.*
- *Machine Learning and statistical models for multiscale market finance.*
 - *Thesis: Reinforcement Learning for Volatility Fitting.*
- 2020–2024 **Ingénieur Polytechnicien (Master level)** — École Polytechnique (I'X), Palaiseau, France.
- *Applied Mathematics, Computer Science and Economics. With Distinction.*
- 2021–2022 **Bachelor's Degree in Philosophy** — Université Paris Nanterre, France.
- *Politics, Philosophy and Theology.*
- 2017–2020 **B.Sc. in Mathematics** — Université de Yaoundé I, Cameroon.
- *High Honours; Applied and Computational Mathematics.*
- 2017–2020 **Preparatory Classes (Mathematics & Physics)** — Ecole Nationale Supérieure Polytechnique de Yaoundé (ENSPY), Yaoundé, Cameroon.
- *Mathematics and Physical Science. Highest Honours.*

Publications and Preprints

- May 10, 2026 **Gnabeyeu, E. & Dro, S. B.** On Optimal Merton's Problem under Multivariate Affine Volterra Models with Jumps signal; Preprint *in preparation*.
- Avril 1, 2026 **Gnabeyeu, E.** On the mean-variance problem through the lens of multivariate fake stationary affine Volterra dynamics.
- March 22, 2026 **Gnabeyeu, E. & Pagès, G.** On Path-dependent Volterra Integral Equations: Strong Well-posedness and Stochastic Numerics.
- March 11, 2026 **Gnabeyeu, E.** On Utility Maximization under Multivariate Fake Stationary Affine Volterra Models.
- February 11, 2026 **Gnabeyeu, E. & Pagès, G. & Rosenbaum, M.** Fake stationary rough Heston volatility: Microstructure-inspired foundations.
- November 1, 2025 **Gnabeyeu, E. & Pagès, G. & Rosenbaum, M.** On Inhomogeneous Affine Volterra Processes: Stationarity and Applications to the Volterra Heston Model..

- September 1, 2025 **Gnabeyeu, E. & Pagès, G.** On a Stationarity Theory for Stochastic Volterra Integral Equations, to appear in *Stochastic Processes and their Applications*.
- October 22, 2024 **Gnabeyeu, E., Karkar, O., Idboufous, I.** Solving the Dynamic Volatility Fitting Problem: A Deep Reinforcement Learning Approach, to appear *Journal of Machine Learning Research*.

Conferences and Summer Schools

- 27–30 January 2026 **Conference on Advances in Financial Mathematics 2026 : directions and some information** — Sorbonne University, Campus Pierre et Marie Curie, Paris, France.
- *Attended plenary talks on recent advances in financial Mathematics, for both academic researchers and practitioners.*
- June–July 2025 **International Joint Conference on Neural Networks (IJCNN 2025)** — Pontifical Gregorian University, Rome, Italy.
- *Presenting the paper "Solving the Dynamic Volatility Fitting Problem: A Deep Reinforcement Learning Approach in Continuous State Action Spaces."*
 - *Attended workshops on Reinforcement Learning, Diffusion Models and Flow, Deep Generative Models, and Bayesian Methods for Inference and Learning.*
- July 2025 **5th Barcelona Summer School of Stochastic Analysis and Quantitative Finance** — Centre de Recerca Matemàtica (CRM), Autonomous University of Barcelona, Spain.
- *Participated in lectures on rough volatility and rough path theory, and their applications to signatures, machine learning, and stochastic optimal control.*
- July 2024 **Summer School on Probabilistic Machine Learning** — Paris, France.
- *Attended workshops on stochastic calculus, deep generative models, and statistical decision theory.*

Selected Talks

- December 2025 **Doctoral Seminar** — Sorbonne Université, LPSM, Paris, France.
- *On Inhomogeneous Fractional Square-Root Process: Microstructural Foundation and Weak Stationarity Theory.*
- October 2025 **Natixis Foundation for Research and Innovation Awards Ceremony for Best Master's Thesis in Quantitative Finance** — Sky Garden (BPCE Tower), Paris, France.
- *A Reinforcement Learning Perspective to Exotics and Flow Equity Derivatives.*
- July 2025 **5th Barcelona Summer School of Stochastic Analysis and Quantitative Finance** — Centre de Recerca Matemàtica, Spain.
- *On a Stationarity Theory for Stochastic Volterra Integral Equation with Affine Drift: Finite-Time, Functional Weak Asymptotics and Applications.*

Teaching Experience

- 2025–May. 2026 **Teaching Assistant** — Sorbonne Université, Paris, France.
- *Course: Numerical Analysis (Bachelor's Level 3, Mathematics).*
 - *Course: Advanced Mathematics (Bachelor's Degree – First Year, Mathematics).*
- Sept.–Dec. 2025 **Teaching Assistant** — Université Paris 1 Panthéon-Sorbonne, Paris, France.
- *Course: Probabilities and Statistics (Bachelor Level 3, Economics).*
- Sept.–Dec. 2025 **Teaching Assistant** — ESILV – Graduate Engineering School, Paris, France.

- *Course: Advanced Statistics (Master 1).*
- *Covered topics: Inferential and Bayesian Statistics, Non-parametric Statistic and Hypothesis Testing.*

2018–2020 **Teacher and Tutor** — Intelligencia Corporation, Yaoundé, Cameroon.

- *Tutoring in mathematics and physics.*

Professional Experience

Apr.–Nov. 2024 **Quantitative Researcher** — Citigroup Global Markets Limited, London, UK.

- *Machine Learning for flows and exotic equity derivatives.*

Apr.–Sept. 2023 **Quantitative Researcher & Strategist** — BNP Paribas Asset Management, Paris, France.

- *Machine Learning for mid-frequency systematic equity investment strategies.*

Jun.–Sept. 2022 **Data Scientist & ML Engineer** — BOXY Start-Up, Paris, France.

- *Mathematical modelling and demand forecasting in autonomous retail systems.*

2021–2022 **Data Scientist Intern** — Alvidence Start-Up & École Polytechnique, Palaiseau, France.

- *Explainability of AI and statistical learning algorithms (XAI project).*

Awards, Distinctions and Scholarships

2025 **First Prize – Best Master’s Thesis in Quantitative Finance** — Natixis Foundation for Research and Innovation.

- *First Prize for the 2025 edition of the best master’s thesis in Mathematical Finance.*

2021 – 2023 **Eiffel Excellence Scholarship.** — from the French Government.

2017 **Diploma of Excellence – National Scientific Olympiad** — Cameroon.

2015 – 2017 **Special Honour Roll for Best Laureate in Mathematics and Physics.** — NIAT Foundation.

2011 **Africa Challenges Group Merit Scholarship.** — from the United States.

Skills

- **Programming:** Python, Java, SQL, MATLAB, JavaScript, R, C/C++, PHP, CSS.
- **Libraries:** Pandas, Scikit-learn, PyTorch.
- **Languages:** French (Native), English (C1), German (B1), Spanish (A2).

Interests

- Reading (literature, philosophy, politics, theology).
- Travel, music, cinema, theatre, drawing, boxing.