Federico Bello

M2 MVA, ENS Paris-Saclay | Sophie Germain Scholar | 3 years as an ML engineer

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Available for a 4 to 6 month research internship starting April or May 2027

Education

M.Sc. Mathematics, Vision, Learning (MVA), École Normale Supérieure Paris-Saclay Sep 2026 – Sep 2027

- Sophie Germain Excellence Scholarship, Fondation Mathématique Jacques Hadamard.
- Coursework: Object Recognition and Computer Vision, Foundations of Large Language Models, Geometric Deep Learning, Optimal Transport, Robotics.

B.Sc. Telecommunication Systems Engineering, University of the Republic (UdelaR), Uruguay Mar 2019 – Jun 2025

- Graduated top 3 of the class; specialization in Machine Learning and Statistical Signal Processing.
- Thesis on anomaly detection with graph neural networks: Best Engineering Project and First Place Thesis Prize, National Academy of Engineering (Uruguay). Published at ICPRAM 2026.

Publications

GNNs for Time Series Anomaly Detection: An Open-Source Framework and a Critical Evaluation 2026
ICPRAM 2026, Int. Conference on Pattern Recognition Applications and Methods, Marbella, Spain · Code: GraGOD

- Shows that much of the reported progress in GNN-based time series anomaly detection comes from how the datasets were built and from the evaluation metrics, not from the models. GraGOD is open source.

The Lattice-Input Discrete-Time Poisson Channel 2024
IEEE ISIT 2024, International Symposium on Information Theory, Athens, Greece

- Capacity analysis of the discrete-time Poisson channel under lattice input constraints, a model for DNA-based data storage.

Research Experience

Research and Teaching Assistant, Information Theory Group, School of Engineering, UdelaR Feb 2023 – Feb 2025

- Research on DNA storage channels: theoretical derivations and proofs, leading to the ISIT 2024 paper.
- Lectures and labs for Programming I and II (1000+ students): algorithm design, data structures, complexity.

Industry Experience

Lead Machine Learning Engineer, Tryolabs Oct 2024 – Sep 2026

- Technical lead of **Geosphere (UNICEF)**, an open-source agent system built on the Model Context Protocol, named by IRCAI (UNESCO) among the Top 100 AI projects globally.
- Forward Deployed Engineer embedded with the **LlamaIndex** team, taking document-processing systems from prototype to production for enterprise clients (BP, EY, Guidehouse).
- Mentored engineers, led technical hiring, and defined standards for AI system design and deployment.

AI Developer, Eagerworks Feb 2024 – Oct 2024

- Led backend development of Docshunter, an AI-powered document management and generation platform built on LLM pipelines.

Projects

Rupta, Co-founder and Technical Lead Mar 2026 – Present

- Cross-platform social app (React Native + web) that gamifies real-world experiences. Own the full-stack architecture; launching on iOS and Android. rupta.app

Skills

Programming: Python, C++, SQL, Docker, GCP (Professional ML Engineer, certified)
Machine Learning: PyTorch, GNNs, Scikit-learn, TensorFlow, agentic workflows, LlamaIndex, LangChain
Mathematics: Probability, Linear Algebra, Optimization, Information Theory
Languages: Spanish (native), English (C2, Cambridge CPE), French (A2), German (A2)