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🌐 doriangailhard.github.io

🎓 [Google Scholar](#)

🐙 [GitHub](#)

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📍 Palaiseau, France

Research Interests

Graph & Hypergraph Generation, Generative AI, Hierarchical Generative Models, Flow-Matching, Reinforcement Learning for Combinatorial Optimization, Electronic Design Automation

Technical Skills

Languages

Python, C++, Java, C

ML & Scientific

PyTorch, PyTorch Geometric, NetworkX, NumPy, Pandas, Matplotlib

Data

Spark, PostgreSQL

Infrastructure

Git, Docker, Linux, AWS

Academic Service

Teaching Assistant

Machine Learning with Graphs

Reviewer

NeurIPS 2025 Workshop on New Perspectives in Graph ML

Organizer

ELLIS Doctoral Symposium
AI & Sustainability

Languages

French — Native

English — C1

Spanish — B2

Italian — B2

Interests

Arts & Culture

Cinema, Art History, Humanities

Sports

Bouldering, Running, MMA

Dorian Gailhard

PhD Student — Graph Generative Models for Electronic Design Automation

I am a third-year PhD student in Artificial Intelligence at [Télécom Paris](#) ([LTCI](#), [COM-ELEC](#)), with a defense expected in May 2027. My research focuses on scalable machine learning methods for graph and hypergraph generation, structured combinatorial systems, and applications to Electronic Design Automation (EDA).

Publications

Feature-Aware (Hyper)graph Generation via Next-Scale Prediction — ICML 2026

[Dorian Gailhard](#), [Enzo Tartaglione](#), [Lirida Naviner](#), [Jhony H. Giraldo](#) | [PDF](#) [Code](#)

Introduces the first hierarchical generative framework for graphs and hypergraphs that jointly models topology and node attributes across multiple scales. By formulating generation as a sequence of next-scale prediction tasks, the method preserves both structural and feature consistency throughout the generation process.

HYGENE: A Diffusion-Based Hypergraph Generation Method — AAAI 2025

[Dorian Gailhard](#), [Enzo Tartaglione](#), [Lirida Naviner](#), [Jhony H. Giraldo](#) | [PDF](#) [Code](#)

Proposes the first diffusion-based generative model for hypergraphs. By combining local denoising with progressive hierarchical generation, the method enables scalable synthesis of higher-order relational structures beyond pairwise graph interactions.

Research Experience

PhD Student — May 2024 – May 2027

[Télécom Paris](#) — France | [Project Page](#)

Advisors: [Jhony H. Giraldo](#), [Enzo Tartaglione](#), [Lirida Naviner](#)

Researching scalable generative models for graphs and hypergraphs with applications to Electronic Design Automation. Current work focuses on hierarchical graph generation, particularly diffusion- and flow-matching-based approaches, and reinforcement learning for combinatorial optimization problems arising in EDA.

Research Intern — May 2023 – October 2023

[Università degli Studi di Padova](#) — Italy | [Project Page](#)

Studied continuous formulations of variants of the Maximum Clique Problem in k -graphs. Investigated Lovász extensions and continuous relaxations for discrete combinatorial optimization problems, deriving theoretical results and developing Python and C++ implementations of the proposed methods.

Education

M2 MVA — Mathematics, Vision, Learning — 2022–2023

[ENS Paris-Saclay](#) — France | [Coursework & Projects](#)

Research-oriented master's program in machine learning, artificial intelligence, optimization, computer vision, and applied mathematics.

Master of Science — Data Science — 2021–2023

[Eurécom](#) — France | [Coursework & Projects](#)

Engineering-oriented program covering data science, machine learning, statistical learning, cloud computing, and large-scale data processing.

Engineering Degree — 2020–2023

[Télécom Paris](#) — France | [Projects](#)

Broad engineering curriculum with a specialization in computer science, covering algorithms, software engineering, mathematics, signal processing, and telecommunications.

Preparatory Classes MPSI–MP* — 2018–2020

[Lycée Hoche](#) — France

Intensive curriculum in mathematics, physics, and computer science.