Julien Kloers

MSc Student at École des Ponts, — Graduating : August 2026
Creative Engineering and Topology
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Seeking an **R&D research opportunity starting September 2026**, focused on leveraging Graph Neural Networks for advanced materials discovery and nanostructure optimization.

RESEARCH PROJECTS

Graph Neural Networks for Physics-Informed Metamaterial Generation — Princeton, USA
Princeton University - Form Finding Lab & AI^2 Lab — March 2026 — August 2026

⟩ Current research on the **generative design of mechanical metamaterials** utilizing Graph Neural Networks.
⟩ Developing a computational design framework within an **end-to-end differentiable JAX environment**.

Deep Learning for Topology Generation under LCA constraints — Paris, France
Navier Laboratory (CNRS) — September 2025 — January 2026

⟩ Multi-objective optimization pipeline, effectively embedding Life Cycle Assessment (LCA) constraints directly into the generative process.
⟩ Built a design tool for engineers and architects using latent space projections.

Generative Audio System via Motion-Capture — Paris, France
École des Mines, Center for Robotics — September 2025 — January 2026

⟩ Engineered a system linking physical gestures to modular sound synthesis.
⟩ Implemented a Variational Autoencoder + MAX MSP.
⟩ Showcased the system in a live performance at UPM (Madrid, Spain).

Ariane: Narrative Generation via Graph Structures — Personal Research Project
Web Prototyping — July 2025

⟩ Exploration of non-linear storytelling through graph theory.

EDUCATION

École Nationale des Ponts et Chaussées, Paris, France — 2022 — July 2026
Master of Science
Focus: Mechanical Engineering, Machine Learning. *GPA : 4.00*

Lycée Saint-Louis, Paris, France — 2019 — 2022
Intensive two-year preparation in Advanced Mathematics, Physics, and Theoretical Computer Science. Ranking top 1% in a highly competitive national exam.

PROFESSIONAL EXPERIENCE

Deepki SaaS — Berlin, Germany
Software Engineering Intern — February 2025 — July 2025

Backend Python solutions within a B2B SaaS environment dedicated to the ESG transition of the real estate sector. Portfolios of 3000+ assets. Simulated compliance risks and energy management costs for large-scale real estate portfolios.

CEA (French Atomic Energy Commission) — Saclay, France
Research Intern — Applied Mathematics & Simulation — July 2024 — February 2025

Long-term economic models to simulate, evaluate, and optimize nuclear waste management policies involving projections of tens of billions of euros to support high-level strategic decision-making. Directly influenced the CEA's long-term financial strategy by providing actionable insights through advanced economic modeling.

TECHNICAL SKILLS

ML & Programming: JAX, PyTorch, Python, C++, JavaScript.
Specialties: Graph Neural Networks, Geometric Deep Learning, Topology Optimization.
Creative & Design: Max/MSP, Rhino 3D + Grasshopper (Parametric Design), CAD.
Languages: French (Native), English (C1+), German (C1), Spanish (B1).
Hobbies: Modular Synthesis, Design, Climbing