

Victor Caro

📍 École polytechnique, Paris ✉ victor.caro@polytechnique.org in Victor Caro

Summary

Engineering student of **École polytechnique** specialized in Computational Physics. My interest lies at the intersection of computer science and quantum physics.

Education

École polytechnique, MSc in Engineering, **Computational Physics** 2023-Present

- One of France's top-ranking engineering schools.
- Specialized coursework: **Statistical Physics, Condensed Matter, Numerical Physics, Quantum Information & Algorithms**, Machine & Deep Learning, Physics-Informed Neural Networks, Mathematical modelling of quantum computers, Quantum optics, Quantum Information

Louis-le-Grand High School, Preparatory School 2021-2023

- Two-year intensive studies to prepare the competitive entrance exams for top French schools.
- Developed strong foundations in **Mathematics, Physics & Computer science**

Professional Experience

Euro-Information, Quantum Machine Learning Intern (3 months) 2025

- Developed **quantum machine learning** algorithms (PQFM) and **optimization** algorithms (QAOA).
- Created & supervised experimentations of hybrid **classical-quantum variational algorithms**.
- Collaborated closely with **IBM Quantum Accelerator & Consulting** teams, and completed **Qiskit Global Summer School**, deepening understanding of quantum architectures.

Gendarmerie Nationale, Officer Cadet (7 months) 2023-2024

- Completed **Military Service** in French military force for law enforcement.
- **Led a platoon**, honing teamwork and leadership skills.
- Gained **adaptability** through service in various departments.

Projects

Quantum Monte Carlo, Numerical physics project 2025-2026

- Developed **monte carlo methods** based on the word-line approach to simulate quantum systems. Study of different update methods for the *XXZ Heisenberg* model.

Compiler, Side project 2025

- Coded a compiler targetting **WebAssembly** in pure **C** without any other tool. Implemented a JavaScript-like language with static type checking and C-like expressivity.

Hackathons, Projects carried: 2023, 2024, & 2025

- **LaunchMate**: AI multi-agent crew to kickstart freelance career. Used Smolagents & Claude API
- **FakeNet**: AI agents and **graph theory** to detect disinformation networks on social media. Used AWS & Mistral
- **Carbonevents**: An AI agent to estimate the carbon footprint of corporate events. Used ScaleWay & LangChain

Fraud detection with Quantum Algorithms, Data Science project with **BNP Paribas** 2024

- Created quantum neural networks (**QNN**) and clustering algorithms (**VQC**) to detect rogue trading.

Key Skills

Languages:

- French: Native speaker
- English: **Cambridge C1**
- Spanish: Intermediate level

Skills:

- Programming languages: **Python, C/C++**, Rust, Typescript, OCaml, Java
- Tools: **Linux, PyTorch**, NumPy, Scikit, Qiskit, Git, CI/CD, AWS, React
- Soft-skills : Creativity, adaptability, teamwork, problem solving