Nicolas Lafaille

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Education

- **CentraleSupélec - Université Paris-Saclay** September 2023 - June 2025
  Bachelor of Engineering – Beng Paris, France
  CentraleSupelec is among very best Schools of Engineering in France, and founding member of Université Paris-Saclay (ranked 12th worldwide and 2nd in mathematics in the 2025 ARWU ranking).
  - GPA: 4.19/4.33 (top 5% of the class)
  - Relevant Coursework: Machine Learning, Artificial Intelligence, Statistics and Learning, Algorithms, Optimization, Convergence, Integration and Probabilities, Partial Differential Equations

- **Classes Préparatoires aux Grandes Ecoles - Lycée Henri-Poincaré** September 2021 - June 2023
  Nancy, France
  Very intensive 2-year training in math, physics and computer science for the highly selective national exams to the top Schools of Engineering in France.
  - GPA: 4.0/4.0
  - Relevant Coursework: Analysis, Algebra, Probabilities, Complexity Theory, Graph Theory, Algorithms.

Work Experience

- **Visiting Student Researcher** March 2026 – August 2026
  Harvard University Cambridge, MA
  - Research semester abroad under the supervision of Dr. Mengyu Wang, focused on the use of ML algorithms for medical purposes.

- **Machine Learning Researcher Intern** July 2025 - December 2025
  Thales - CortAIx Labs Paris, France
  - Designed a Deep Reinforcement Learning pipeline and a custom simulator to optimize resource allocation and decision making in quantum key distribution networks.
  - Researched and developed Graph Neural Network architectures, enhancing scalability for dynamic and large topologies.

Projects

- **Radiance field rendering architectures (NERFs) applied to industrial parts** February 2025 - June 2025
  In collaboration with **SafranTech**
  - Benchmarked multiple NERFs models on tasks relevant for the client.
  - Developed a framework and application that group together several NERFs architecture to facilitate their use.

- **Incremental learning applied to time series forcasting** February 2024 - February 2025
  In collaboration with **MICS Laboratory - CentraleSupélec**
  - Developed a predictive model for financial time series forcasting and portfolio selection. Applied expertise in stochastic processes, machine learning, and data analysis.

Volunteering

- **Volunteer tutor** October 2024 - June 2025
  Hagir Paris, France
  - Weekly 3-hour Mathematics and Computer Science classes for a disabled student.

Skills

- Programming languages: Python (NumPy, Pandas, PyTorch, SciPy), C++, OCaml, SQL, Matlab
- Languages: English (C1), French (native language), Spanish (B1).