

Arthur Evain

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Education

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- ENS Paris-Saclay**, Gif-sur-Yvette, France Sept. 2026 – Present
MSc in Applied Mathematics and Machine Learning (MVA) Expected 2027
- Core coursework: Optimal Transport for Machine Learning, Computational Statistics, Foundations of Distributed and Large-Scale Computing Optimization.
- Télécom Paris**, Palaiseau, France Sept. 2024 – Present
MSc in Engineering (Diplôme d'Ingénieur) Expected 2027
- Specialization tracks: Advanced Imaging, Computer Vision, and Applied Mathematics for Probability (Data Science track).
 - Core coursework: Probability and Statistical Modeling (M1 level), Deep Learning, Optimization.
- Lycée Clemenceau**, Nantes, France Sept. 2022 – June 2024
Classes Préparatoires (CPGE) in Mathematics, Physics, and Computer Science
- Intensive two-year undergraduate program preparing for competitive nationwide entrance examinations to French Grandes Écoles.
- Lycée Jean-Paul II**, Saint-Grégoire, France July 2022
French Baccalauréat
- Graduated with Highest Honors (*Mention Très Bien*). Majors in Mathematics and Physics-Chemistry.

Professional Experience

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- Secure-IC**, Cesson-Sévigné, France July 2025 – Aug. 2025
Strategic Project Engineer Intern
- Developed and evaluated Intrusion Detection Systems (IDS) on Controller Area Network (CAN) bus architectures using PyTorch.
 - Benchmarked multiple architectures: LSTM, Autoencoders, BERT-based encoders, CNNs, and Adversarial Networks.
 - Integrated the trained IDS pipeline onto an Alstef Automated Guided Vehicle (AGV) for real-time anomaly detection.
 - Collaborated in an Agile Scrum environment to deliver on sprint milestones.
- Carrefour**, La Baule, France July 2022 – Aug. 2022
Seasonal Retail Associate
- Handled cashier transactions, inventory replenishment, and customer support under peak summer demand.
- Orange Labs**, Cesson-Sévigné, France June 2019
R&D Discovery Intern
- Shadowed research engineers working on advanced telecommunication infrastructure and prototype validation.

Academic Projects

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- Unsupervised Abstract Art Classification** June 2026
- Conducted unsupervised clustering on an imbalanced collection of abstract paintings within a team of 4.
 - Extracted geometric descriptors alongside deep feature representations via pretrained CNNs and autoencoders.
 - Segmented painting styles using K-Means clustering and refined boundary assignments using empirical post-processing.
- White Blood Cell Classification Challenge (Kaggle)** Early 2026
- Ranked 9th out of 77 participants in a competitive computer vision challenge with severe class imbalance.
 - Designed a pipeline classifying white blood cells across 13 distinct classes from microscopic imagery.
 - Combined classical computer vision segmentation techniques (thresholding, morphological operators) with fine-tuned deep neural networks leveraging handcrafted morphological features.

Patch-Based Image Inpainting

Late 2025

- Implemented an exemplar-based image inpainting algorithm from scratch relying on patch priority and texture matching.
- Applied the system to seamless object removal (e.g., removing foreground subjects) and background reconstruction.

Quantum Cryptography & Hardware Benchmarking

Mid 2025

- First-year capstone project conducted under the supervision of a quantum computing research scientist.
- Implemented state-of-the-art quantum cryptographic protocols to benchmark theoretical correctness against real-world device noise.
- Designed and executed quantum circuits via Qiskit and connected remotely to IBM Quantum superconducting processors via API.

Leadership & Extracurricular Activities

French Robotics Cup

Competitor

- Engineered autonomous robots using Arduino microcontrollers and environmental sensor suites.
- Programmed real-time motion planning, decision-making, and game-strategy algorithms in C and OCaml.

Personal AI & Quantitative Development

Independent Developer

- Built a tasting assistant model using NLP techniques for organoleptic and flavor profile analysis.
- Developed and backtested an algorithmic trading engine relying on time-series forecasting models.

Event Management & Associations

Treasurer

- Managed financial budgeting and compliance for *Orchestres du Plateau de Saclay* and the *Salon du Terroir*.
- Co-organized the local Terroir fair, managing end-to-end event logistics for over 1,000 attendees.

Athletic & Musical Pursuits

- **Running:** Completed 10k races with a personal best under 40 minutes (*Sub-40 10k*).
- **Calisthenics:** Advanced bodyweight strength training (Full Front Lever).
- **Viola:** Completed 2nd Cycle Conservatory studies; active member of a symphonic orchestra and a rock band.

Technical Skills

- **Languages:** Python (PyTorch, OpenCV, NumPy, Pandas, Scikit-Learn), OCaml, C, Arduino, SQL.
- **Tools & Frameworks:** Git, Qiskit, Linux, Bash, Docker, $\text{\LaTeX}$.
- **Languages:** French (Native), English (C1 – Fluent professional proficiency), Spanish (B1 – Intermediate).