Baptiste Arnaudo

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Professional summary

I am a French master's student at École Polytechnique, France's leading institution in science and engineering, where I focus on statistics, machine learning, computer science, and theoretical mathematics. Passionate about foundational research, I am currently seeking a research internship (Feb–Sept 2026) as preparation for a PhD. Please visit my Personal Website for details about my projects, teaching experience and education.

Education

Ecole Polytechnique Palaiseau, France

Pursuing a Master's in Statistics and Machine Learning within a rigorous and multidisciplinary curriculum. *Top 10%*

Preparatory classes at Lycée Thiers Marseille, France

Two-year intensive program in mathematics, physics and computer science for top engineering schools. *2021 – 2023*

Experience

Machine Learning Intern June 2026 – Present

GE Healthcare *Buc, France*

- Developing state-of-the-art deep learning models (e.g., nnU-Net v2) and algorithms for segmentation in breast MRI and cancer detection.
- Investigating strategies to optimize model performance for clinical-grade accuracy and robustness.
- Integrating segmentation pipeline into a modular C++ codebase for deployment in new clinical imaging software.

Projects

AI for Behavioral Genomics – Team Research Project Sep. 2024 – May 2025

Institut Pasteur *Paris, France*

- Conducted a statistical analysis of gene perturbations in *Drosophila* larvae to quantify the contribution of individual genes to behavioral variance.
- Developed a Transformer-based model integrating genetic inputs and environmental stimuli to predict larval movement patterns; model interpretation revealed non-trivial behavioral dynamics.
- Deployed large-scale model training on a high-performance computing cluster using SLURM; optimized resource allocation and job scheduling.
- Led the project end-to-end: managed team coordination, interfaced with research mentors, and ensured delivery of a research-grade prototype within strict deadlines.

Multimodal YouTube View Prediction May 2025

School Team Project

- Designed a multimodal regression model to predict Indian YouTube video popularity using thumbnails (ResNet-50), titles (Qwen3-0.6B encoder), channel metadata, and upload timestamps.
- Performed in-depth exploratory data analysis to extract informative features and identify modality-specific patterns.
- Built a unified neural architecture integrating image, text, and structured inputs, with LayerNorm, dropout, and cyclic temporal encoding.
- Followed a rigorous experimental approach with controlled ablation studies to assess modality contributions and improve model interpretability.
- Achieved a test MSLE of 2.8, placing in the top 2% of participants on the hidden evaluation leaderboard.

Technical Skills

Programming Languages: Python, C++, Java, OCaml
Libraries and Frameworks: PyTorch, JAX, TensorFlow, scikit-learn, Git.

Extracurricular Activities

President, AI Association (Binet IA): Organized workshops, hackathons, and guest lectures to foster a strong AI community within the school.
Co-Founder, Unaite: Launched a national federation of AI student associations from France's top institutions. Led high-impact initiatives, including *Ignaite*, a start-up accelerator developed in collaboration with Google, Anthropic, and major VC funds.
Treasurer, Career Fair Association (X-Forum): Managed a budget of several hundred thousand euros to organize the school's flagship career fair, hosting 200+ companies and 1000+ students.
Captain, School Basketball Team: Led the team with over 12 hours of training per week.

Hobbies

Philosophy: Completed a Bachelor's degree in Philosophy in parallel with my studies at École Polytechnique, graduating with honors and a 4.0 GPA.
Math Tutoring: Created free online math courses for high school students in my spare time.
Problem Solving and Research: Engaged in independent theoretical research on Neural Tangent Hierarchy for CNNs and other architectures.
Languages: Self-taught Modern Standard Arabic and Italian to a B2 level in each.