

Josselin ROBERT

M.Sc. in Data Science — École Polytechnique (Institut Polytechnique de Paris)

Graduate Engineering Student at Télécom SudParis

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Research Focus: Bridging statistical learning theory, convex optimization, and generative architectures with systems reverse-engineering. Seeking a 6-month research internship at the **Mila AI Safety Studio** starting mid-April 2027 to develop dynamic evaluation benchmarks, red-teaming simulations, and adversarial robustness guardrails.

Education

M.Sc. in Data Science (M2DS) (September 2026 – March 2027)

École Polytechnique (Institut Polytechnique de Paris), Palaiseau, France

- **Theoretical Foundations:** Machine Learning Theory (PAC learning, Rademacher complexity, generalization bounds), Optimization for Data Science (convex analysis, proximal splitting ISTA/FISTA, SGD).
- **Deep Learning & Modalities:** Natural Language Processing & Large Language Models (pre-training, SFT, RLHF, reasoning), Deep Learning for Computer Vision, AI for Sound, Data Stream Processing.

Master of Science in Engineering (Digital Technologies & Sustainability) (2024 – Present)

Télécom SudParis (Institut Polytechnique de Paris), Évry-Courcouronnes, France

- Graduate-level curriculum in computer science and digital engineering. **Double Major in Mathematics and Computer Science.**
- Rigorous training in algorithmic complexity, distributed systems, probability theory, and network security.

Classes Préparatoires aux Grandes Écoles (CPGE MPSI / MP) (2021 – 2024)

Lycée Janson de Sailly (2023–2024) & Lycée Chaptal (2021–2023), Paris, France

- Intensive three-year STEM undergraduate preparation in advanced Mathematics (linear algebra, real analysis, topology, differential calculus), Physics, and Computer Science.

AI Safety & Core Competencies

- **AI Safety & Evaluation:** Dynamic benchmarking, red-teaming simulations, automated harm detection, adversarial robustness, model alignment, and empirical guardrail evaluation.
- **Machine Learning & Deep Learning:** PyTorch, scikit-learn, Deep Neural Networks, Statistical Learning Theory, Convex Optimization, Proximal Algorithms, Generalization Bounds.
- **NLP, LLMs & Generative Models:** Hugging Face Transformers, Zero-Shot Semantic Classification, SFT, RLHF, Vision Transformers (ViT), Self-Supervised Learning (DINO).
- **Systems & Adversarial Analysis:** Network protocol reverse-engineering (packet inspection, APK bytecode decompilation), REST APIs, Linux environments, High-Performance Compute clusters.
- **Languages:** Python (Proficient), Dart / Flutter (Proficient), TypeScript (Intermediate), Java (Intermediate), C++ (Robotics), C# (Basics).

Experience & Key Projects

Full-Stack & AI Engineering Intern (2026)

Better Group – Solidarity Advertising Network, Paris, France

- Formulated and deployed an automated zero-shot semantic classification pipeline using **Hugging Face Transformers** to map unstructured news articles to social impact initiatives.
- Architected the backend service handling article ingestion, model inference caching, and asynchronous communication.
- Conducted empirical evaluations on classification fidelity and inference latency in production environments.

Founder & Lead Developer – yNotes (Open Source) (2020 – 2023)

archive.ynotes.fr • Reverse-Engineered Academic Platform Client (>10,000 active users)

- Spearheaded architecture and development in **Dart / Flutter** (MVC architecture, local Hive/Isar caching).
- Conducted deep protocol reverse-engineering of closed academic portals via network traffic inspection and Android APK bytecode decompilation; authored the native Dart API client.
- Coordinated an open-source team of 7 contributors (Git, Monday), managing code review, vulnerability mitigation, and app store security releases.

Data Engineering Intern (6 weeks) (July 2025)

Safran Landing Systems, Vélizy-Villacoublay, France

- Developed automated data extraction and processing pipelines using Python and OCR technologies.
- Designed and deployed an internal enterprise portal in TypeScript, collaborating across technical teams.

Robotics Software Developer – French Robotics Cup (2024 – 2025)

InTECH Association, Télécom SudParis

- Programmed embedded autonomy and sensor-driven decision logic in C++ for the French Robotics Cup (*Coupe de France de Robotique*).

Languages & Honors

- **Languages:** French (Native), English (Fluent / C1–C2, academic and technical proficiency), Spanish (Elementary / A2).

- **Work Authorization:** French Citizen; fully eligible for Canada's simplified **EIC (Expérience Internationale Canada) Stage coop international** closed work permit.
- **Honors & Leadership:** Finalist in the "Concours Entreprendre" Startup Competition (Project Ozy, 2025); President of Club Xtreme (Running & Outdoor Sports, organized Bike&Run 2026 race); French Baccalauréat with Highest Honors (*Mention Très Bien*, 2021).