Josselin ROBERT

M.Sc. in Data Science — École Polytechnique (Institut Polytechnique de Paris)
Graduate Engineering Student at Télécom SudParis • Graduation: 10/2027

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Machine Learning, Computer Vision & AI Systems Profile: M.Sc. Data Science candidate at École Polytechnique with dual training in mathematical optimization theory and production software engineering. Hands-on experience building zero-shot transformer pipelines (**Better Group**), industrial OCR systems (**Safran**), mission-critical clinical software (**Reactif**), and open-source mobile applications serving > 10,000 users (**yNotes**). Seeking a 4 to 6-month end-of-studies Machine Learning / AI Research internship in Canada starting mid-April / May 2027.

Education

Master of Science in Data Science (M2DS) — École Polytechnique & IP Paris, France **09/2026 – 09/2027**

- Graduate research specialization in mathematical learning theory, continuous optimization, and deep learning architectures.
- Relevant Coursework: Deep Learning for Computer Vision (`APM_5DA12_TP`), NLP & Large Language Models (`MDC_53607_EP`), Optimization for Data Science (`APM_53677_EP`), Deep Learning I (`CSC_5AI06_TP`), Data Stream Processing (`MDC_53671_EP`).

Diplôme d'Ingénieur (Double Major Mathematics & Computer Science) — Télécom SudParis, France **09/2024 – 09/2027**

- French Grande École engineering curriculum: continuous optimization (`MAT 4515`), algorithms, operating systems, and computer architecture.
- Academic Standing: Year 2 GPA: **15.57/20** (3.8/4.0, US Grade: **A / A+**); Year 1 GPA: **15.04/20**.

CPGE MPSI / MP (Classes Préparatoires aux Grandes Écoles) — Lycée Janson de Sailly & Chaptal, Paris 09/2021 – 07/2024

- Three-year intensive undergraduate preparation in multivariable calculus, linear algebra, spectral theory, and physics.

Machine Learning, Vision & Systems Competencies

- **Deep Learning, NLP & Computer Vision:** Transformers, Zero-Shot NLI, LoRA/PEFT, Vision Transformers (ViT), CNNs, object detection, Optical Character Recognition (OCR), self-supervised representation learning (DINO), LLM agentic tool-use & MCP.
- **Frameworks & Scientific Stack:** PyTorch, torchvision, Hugging Face, scikit-learn, OpenCV, NumPy, SciPy, pandas, FastAPI.
- **Languages & Infrastructure:** Python (proficient), Dart / Flutter (proficient), TypeScript, C++ (embedded/robotics), Linux, Git, Docker, CI/CD.
- **Languages:** French (Native), English (Fluent / C1–C2, full bilingual professional proficiency).

Professional Experience & Selected Engineering Projects

Full-Stack & AI Engineering Intern — Better Group, Paris, France **2026**

Zero-Shot Transformer Pipeline & Low-Latency Semantic Inference

- Built and deployed a zero-shot classification pipeline using **Hugging Face Transformers** (NLI cross-encoders) in production to categorize live editorial articles into social impact taxonomies with > 92% precision; engineered vector caching cutting latency by 45%.

Data Engineering Intern — Safran Landing Systems, Vélizy-Villacoublay, France **07/2025 – 08/2025**

Industrial Document AI, OCR Pipelines & Enterprise Tooling

- Engineered an automated document extraction pipeline in Python using **Optical Character Recognition (OCR)** for aeronautical technical logs, and built a custom TypeScript SharePoint Framework component integrating GitLab release APIs.

Lead Maintainer — Reactif (reactif.app) & Founder — yNotes (archive.ynotes.fr, > 10,000 Users) **2020 – Present**

Mission-Critical Medical Software & Open-Source Mobile Architecture

- **Reactif:** Architected an offline-first real-time clinical cognitive aid for emergency resuscitation (CPR) used by SAMU/SMUR teams.
- **yNotes:** Founded an open-source Flutter academic client scaling to > 10,000 active users; reverse-engineered encrypted school APIs via APK bytecode disassembly, ported `pronotepy` to Dart, and led a team of 7 contributors.

Computer Vision & Robotics Engineering — French Robotics Cup & TIPE Thermal Vision **2022 – 2026**

Embedded C++ Perception, Hough-Transform Detection & Infrared Image Processing

- **Autonomous Robotics:** Developed C++ visual perception and real-time obstacle tracking routines for an autonomous mobile robot competing in the French Robotics Cup (Coupe de France de Robotique).
- **Thermal Infrared Analysis:** Built an automated Python/OpenCV computer vision pipeline extracting 2D temperature fields from thermal infrared imagery via grid calibration and colorimetric mapping.

Availability & Work Authorization in Canada

- **Work Authorization:** French citizen; 100% eligible for Canada's simplified **EIC (Expérience Internationale Canada) – Stage coop international** employer-specific work permit (fast-tracked bilateral treaty, LMIA-exempt, zero employer fees).
- **Internship Period:** Available full-time for a 4 to 6-month placement starting mid-April / May 2027 through October 2027.