Jonathan Fernandez

AI Engineer

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Open to roles in Vaud and Geneva. French citizen: right to work in Switzerland under the AFMP/ALCP, no permit quota and no sponsorship required.

PROFILE

Engineer with nine years of industrial and software experience, now completing an AI Engineer master's degree. Two years building and shipping AI solutions inside an SME before any formal AI training: a RAG technical assistant, a Whisper-based video-to-training pipeline that is still in production and delivered a measured 5x productivity gain, and an LLM code generator for a proprietary scripting language. Comfortable with the whole path from business need to running system: supervised learning, LLM applications, evaluation, containerisation and deployment. What I bring beyond modelling is a habit formed on the shop floor: measure the manual process first, target the highest-ROI step, ship something people actually use, then document it for handover.

TECHNICAL SKILLS

AI and machine learning : Supervised learning (LightGBM, XGBoost, random forest, business-cost threshold tuning), RAG and LLM applications, model fine-tuning (SFT with LoRA, DPO), speech recognition (Whisper), prompt engineering, SHAP explainability

Evaluation and traceability : Ragas, structured manual evaluation and failure-mode analysis, MLflow, Weights & Biases, DVC, per-interaction JSON Lines logging

Engineering : Python (pandas, NumPy, scikit-learn, PyTorch, FastAPI, LangChain, LangGraph, pytest), Docker and Docker Compose, Git, GitHub Actions, FAISS and Milvus, GCP (Compute Engine, L4 GPU), VBA

Domain : CAD and CAM at expert level (SolidWorks, Fusion 360, cadwork, AutoCAD, Revit), CNC post-processors, industrial auditing, technical training and documentation

Languages : French native, English C1 (TOEIC 895, five years of daily professional use), Portuguese elementary

EXPERIENCE

E-learning Architect and AI Developer EFICAD, CAD/CAM software vendor Feb 2022 to Sep 2025

- Built an end-to-end AI pipeline turning recorded live training into e-learning modules: Whisper transcription, a 60-term proprietary vocabulary correction dictionary, and Gemini 2.5 Pro for pedagogical segmentation. Around 200 videos processed, 5x productivity gain measured before and after, handed over to colleagues and still in production today.
- Designed and delivered a complete e-learning platform (WordPress and LMS) from technical choice to content: 10 courses, roughly 484 chapters, 60 hours of video, 150 enrolled users.
- Prototyped a RAG technical assistant over around 500 pages of internal documentation, presented to management and validated on a complex technical question.
- Prototyped an LLM generator of parametric design scripts for the company's proprietary language, reaching around 80 percent success on medium-complexity designs.
- QA lead across 4 software products, 100 to 150 structured bug reports a year, growing into a product advisory role with participation in roadmap and feature prioritisation meetings.
- Produced bilingual technical documentation: around 150 help pages updated and 3 release-notes documents of roughly 100 pages each, across 3 products.

Test Engineer and Certification Auditor CERIBOIS, accredited testing laboratory, Valence Apr 2019 to Nov 2021

- Automated the full test-report chain in VBA, from form ingestion through calculation to export and compilation: 2 hours 30 down to 20 minutes per report, error rate down from 20 to 5 percent, around 100 reports produced with the system.
- Designed around 10 new mechanical test protocols and ran around 200 tests, including a three-day on-site campaign qualifying solar panel structures on a 3 km circular site.
- Designed around 10 steel test rigs (SolidWorks then Fusion 360, finite element simulation, manufacturing drawings).
- Audited 48 certified companies across two national quality labels, with authority to maintain or withdraw certification, and trained around 15 professionals.
- Member of the three-person executive committee, managed a team of 6, and contributed to the evolution of national COFRAC standards.

CAD/CAM Application Engineer EFICAD, La Grande Motte 2017 to 2019

- International technical support, around 10 tickets a day, two thirds of them in English.
- Delivered around 20 on-site client training sessions in France, Canada, Morocco and the United Kingdom, including reseller training and CNC machine commissioning.
- Developed or adapted around 20 CNC post-processors across around 10 machine brands, plus two out-of-scope consulting projects extending the tooling beyond its original domain.

Design Office Manager Scierie Autran, Hyères 2016 to 2017

- Built a quoting tool on statistical regression (Excel and VBA): quotation time from 30 minutes to 2 hours down to under a minute, adopted by the whole team and deployed on tablets for on-site quoting.
- Ran around 50 timber structure projects: design, costing and site follow-up, including a high-end seafront timber-frame house handled autonomously.

Earlier: qualified carpenter with the Compagnons du Devoir, and innovation internships at InnoVentum (Malmö, Sweden) and CRITT Bois (wooden e-bike frame).

EDUCATION

AI Engineer master's degree, RNCP level 7 OpenClassrooms. In progress 2025 to 2026

Engineering degree, wood technologies and industries ENSTIB, Épinal. Graduated top of a class of 96 2013 to 2016

Carpentry vocational diplomas (CAP and BP) Compagnons du Devoir, Lyon 2010 to 2013

Two-year technical degree, civil engineering IUT Lyon 1 2007 to 2009

SELECTED AI PROJECTS

- Reverse-engineering agent: converts 2D technical drawings into parametric CAD models through vision-based dimension extraction, CadQuery code generation and geometric verification. Feasibility established by a time-boxed spike with success criteria frozen before execution.
- Fine-tuning for hospital triage: SFT with LoRA then DPO on an L4 GPU. Training metrics converged while clinical accuracy degraded, which led to a roadmap built on human verification of outputs rather than on further metric monitoring.
- Retrieval-augmented assistant, deployed and containerised, with 107 tests, Ragas evaluation and source attribution displayed alongside every answer.
- Credit scoring model: LightGBM at 0.79 AUC with the decision threshold set from business cost rather than accuracy, SHAP explainability, MLflow tracking, and a separate serving layer at 94 percent test coverage.

Full portfolio and case studies: github.com/Jojo4911