Joshua NANCEY

Technical Product Manager — AI, Data & Systems

M.Eng. UTC (**Mod'Math Honors**) • AI Product Scoping, Cost/Risk Trade-Offs & Delivery

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Paris, France (Open to Relocation: EU / CH / UK)



Professional Experience & AI Product Delivery

▸ **Epiconcept — R&D Data Science & European Public Health** *March 2026 – Sept. 2026 (6 months)*

AI Technical Product & Research Intern — Clinical LLM Products & Medical Vision *Paris, France*

- **Product Scoping & Cost/Performance Trade-Offs (ECDC European Project):** Defined the technical roadmap for an automated hospital-infection surveillance product under strict GDPR and hardware constraints (on-premise, **1× NVIDIA A100 40 GB**). Benchmarked 20 LLM setups and proved that a specialized 4B model (**MedGemma-4B**, **F1 = 0.91**) outperformed 27B/32B models while cutting latency and compute cost.
- **Trust-by-Design & International Rollout:** Designed a deterministic evidence-grounding protocol (`evidence_is_grounded`) requiring verbatim clinical quotes for clinician auditability; validated zero-shot rollout to Croatian hospitals (**F1 = 0.88**).
- **Clinical Risk Management in Mammography Screening:** Translated clinical safety requirements into a dual-threshold selective abstention rule (FNR ≤ 5%, FPR ≤ 5% on the **GMIC** model at **AUC = 0.889**), routing ambiguous cases to human radiologists.
- **Stakeholder Enablement:** Co-created an 8-chapter interactive training capsule (**Docker** / **Jupyter**) and a 6-chapter Quarto playbook for epidemiologists and engineering teams.

▸ **Aubay — Innovation Department** *Sept. 2024 – Feb. 2025 (6 months)*

Technical Product Owner & Data Science Intern — Data Quality Audit Platform *Boulogne-Billancourt, France*

- **0-to-1 Full-Stack Product Delivery:** Gathered stakeholder requirements, benchmarked deep tabular anomaly models (**GANDALF**, **FT-Transformer**, **Isolation Forest**, **F1 = 0.903**), and delivered a containerized web platform (**Flask** / **React** / **AWS S3** / **Docker**).
- **Decision Framework:** Established a formal taxonomy of point, collective, and contextual anomalies to guide consulting teams on model selection and data-cleaning ROI.

▸ **BMBI Lab (CNRS UMR 7338) & Complétude** *2022 – 2026*

3D/4D Modeling Researcher (5 months) & STEM Instructor (4 years) *Compiègne / Paris, France*

- **Model Parsimony vs. Complexity (BMBI):** Evaluated analytical physical models (10 parameters) against 4D **SIREN** neural networks (**IoU = 99.65%**, Gauss-Bonnet verified to 0.025%).
- **Communication & Coaching (Complétude):** 4+ years of 1-on-1 STEM instruction, translating abstract quantitative concepts into clear, actionable mental models.

0-to-1 Products & Systems Built

▸ **Simulation-Go (IA04) — Concurrent Autonomous Multi-Agent System & Web Dashboard** *Go (Golang), Concurrency, REST API*

- Designed and built a concurrent multi-agent simulation platform in **Go** modeling decentralized autonomous agents with a real-time web analytics dashboard.

▸ **Jarvis & MonLycée Auth Relay — Decision Engine & Browser Extension** *Python, Playwright, Manifest V3*

- Multi-ATS intelligence engine (51 European connectors, 3-LLM grounded evaluation jury) and 1-click **Manifest V3** browser extension for remote SSO session brokering (< 50 ms cache).

▸ **NF26 & Custos — Carbon Footprint Data Warehouse (ADEME) & Mobile Product** *Python, SQL, Kotlin*

- Designed an end-to-end ETL pipeline and dimensional Data Warehouse on the ADEME Carbon Database; built a native Android commitment-device product (**Custos**) for digital focus.

Education

▸ **Master of Engineering (M.Eng.) in Computer Science, AI & Mathematical Modeling** *2023 – 2026*

Université de Technologie de Compiègne (UTC) *Compiègne, France*

- **Dual AI & Modeling Track:** Statistical Learning & Deep Vision (*SY09, SY32*), Operations Research & Optimization (*RO04, RO05*), Software Architecture & Data Engineering (*LO21, NF26*).

▸ **Preparatory Classes for Grandes Écoles (CPGE PTSI / PT — Intensive Math & Physics)** *2020 – 2023*

Lycée Raspail *Paris, France*

Technical Skills

Product & AI Strategy : 0→1 Product Discovery, PRDs & Technical Specs, Latency/Cost/Risk Trade-Offs, Evaluation Metrics (F1, AUC, ECE)

Methodology : Agile / Scrum, Experiment Design, Technical Writing, Stakeholder Alignment

Technical Stack : Python, SQL, PyTorch, LLMs (Prompting, JSON, Grounded RAG), REST APIs (FastAPI/Flask), React, Docker, Git, Quarto

Languages : French (Native), English (Professional Working Proficiency B2+)