

Yann Hoffmann – Data Scientist

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EXPERIENCE

SnT Lab / BNP Paribas

ML Research Engineer

Luxembourg, Luxembourg

Mar. 2023 – Jun. 2025

GenAI for Financial Data Generation: Implemented and evaluated 20 augmentation approaches across 5 real-world datasets (fraud detection, credit scoring); selected the best-performing method and delivered a go/no-go recommendation on synthetic data adoption, improving accuracy across 6 downstream financial applications.

AI Act Compliance: Operationalized financial expert knowledge as ML training constraints, delivering synthetic data addressing AI Act – Art. 15 accuracy and robustness requirements for high-risk financial AI systems.

Research Acceleration: Executed a 1.3M CPU core-hour compute study; leveraged ULHPC infrastructure to compress months of runtime into days, enabling experimentation at a scale otherwise inaccessible.

Talkwalker

Data Scientist

Luxembourg, Luxembourg

Jul. 2021 – Feb. 2023

Audience Segmentation: Launched a first-of-its-kind audience segmentation capability (100K+ Twitter profiles by demographics and interests); opened a novel product line with no prior internal equivalent.

Multilingual Content Extraction: Shipped an end-to-end solution for extracting content from 100K+ multilingual emails (95 AUC); directly supported renewal of Mangopay, a strategic client in the finance vertical, one of three core company verticals.

Data Science Intern

Feb. 2021 – Jun. 2021

ML Platform Operations: Owned deployment infrastructure for 20+ production ML apps (containerization, logging, build pipelines); delivered ~2 hrs/week per engineer in saved overhead, improved uptime, and reduced technical debt across a 15-person team.

Infrastructure Optimization: Prototyped RL agents to optimize compute cluster allocation; built a discrete-event simulator for safe offline validation; prototype subsequently deployed to production infrastructure by a senior colleague.

University of Luxembourg

DevOps Research Assistant

Luxembourg, Luxembourg

Nov. 2020 – Feb. 2021

Paris-Créteil University

Machine Learning Research Assistant

Paris, France

Jun. 2019 – Aug. 2019

EDUCATION

University of Luxembourg

Master of Science in Computer Science; Data Science Specialization

Luxembourg, Luxembourg

Sep. 2019 – Aug. 2021

Sorbonne University

Bachelor of Science in Computer Science; Mathematics Minor

Paris, France

Sep. 2017 – Aug. 2019

CPGE MPSI, Pierre de Fermat

Mathematics, Physics & Computer Science; top-ranked preparatory school nationally

Toulouse, France

Sep. 2016 – Aug. 2017

INDUSTRY KNOWLEDGE

Finance: Fraud detection, AML (BNP Paribas); ML for regulated financial data

Media Intelligence: Customer segmentation, social listening, content intelligence (Talkwalker)

Research: 100+ citations, reviewer in top-tier ML conferences, ML teaching (MSc-level, 2 yrs), thesis mentorship (SnT)

PROJECTS

Regulatory Conflict Resolver; Architecture (Collaboration): Built an agentic AI tool for an architect: document indexing pipeline, LLM-based conflict detection with prompt engineering and guardrails, and a citation-driven expert resolution workflow; shipped as a live demo with full benchmarking and evaluation stack.

Prompt Engineering Training; Co-creation (Freelance): Co-created a structured prompt engineering curriculum; designed exercises and evaluation frameworks for practical LLM instruction techniques.

SKILLS

Technologies:

Python: scikit-learn, numpy, pandas, tensorflow

Machine Learning: XGBoost, Transformers, UMAP, HDBSCAN, Data augmentation

MLOps: mlflow, SLURM, Docker, Grafana, Prometheus, AWS

GenAI: LLMs, AI Agents, RAG, NLP, prompt engineering, MCP

Visualization: matplotlib, seaborn, plotly, React

Systems: Java, Scala

Soft Skills: Project management, organization, systems thinking, cross-functional collaboration, written communication, presentation

Natural Languages: English, French (C2); German (B2); Luxembourgish, Spanish (B1)