

# Hugo PUYBAREAU

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Seeking a 6 months Internship as a Machine Learning engineer

Available to start in March 2026

## EDUCATION

### ÉCOLE CENTRALE DE LYON

2022 - 2025

M1 graduate of École Centrale de Lyon, currently on a gap year

Lyon, France

- Core Courses : Probability and Statistics, Numerical Analysis, Physics, Computer Science
- Major Courses : Machine Learning, Data Engineering, Data Science, Algorithms and Reasoning, Market Finance
- Collegiate activities : Secretary General of the Centrale Lyon Ski club (Responsible for equipment and treasury, Managing logistics, Communication and Fundraising efforts)

### LYCÉE GUSTAVE EIFFEL

2017 - 2022

Preparatory school: PTSI-PT\*, High school European section in Mathematics - English

Bordeaux, France

- Intensive Mathematics, Physics, Computer Science and Industrial Science for highly competitive entrance exams
- Mathematics courses taught in English, obtained a high school degree with European distinction.

## EXPERIENCE

### MACHINE LEARNING ENGINEER INTERN - BEARINGPOINT

March 2025 - Present

- Architected and deployed an LLM-powered SaaS platform on Azure using Azure OpenAI and LangChain to assist editors in analyzing book manuscripts.
- Developed a chatbot leveraging a sophisticated RAG pipeline—incorporating prompt refinement, intent detection, vector database management, reranking, and end-to-end response generation.
- Led full-stack development with a FastAPI backend and a TypeScript + Vue.js + Tailwind CSS frontend.

### DATA SCIENTIST INTERN - BNP PARIBAS

September 2024 - February 2025

- Leveraged open data by building Machine Learning models to predict, score, and classify customers (Random Forest, XGBoost, KNN).
- Facilitated decision-making by translating technical results into clear, non-technical dashboards for superiors without coding backgrounds.

## PROJECTS

### ENS DATA CHALLENGE

July 2024 - September 2024

#### QRT (4th/+800) (classification) / ELMY (42nd/+220) (time series)

- Developed advanced skills in predictive model optimization to predict the outcome of sporting events.
- Predicted electricity price differences between the SPOT market and the intra-day market using Feature Engineering and Machine Learning algorithms.

### PERSONAL PROJECT - EMBEDDING ANALYSIS SEARCH

January 2025 - February 2025

- Engineered a FastAPI-powered semantic search engine using SBERT embeddings, with dynamic indexing endpoints, CORS support, and real-time retrieval of news articles from natural-language queries.
- Built a React.js frontend with smooth UI/UX animations and performed comparative analyses of TF-IDF, Sentence-BERT, and word2vec (CBOW & Skip-gram) embedding methods to evaluate search relevance.

### PERSONAL PROJECT - WEB SCRAPING / NLP FINE TUNING

September 2024 - October 2024

- Developed an automated system for scraping tech news titles and generating full-length articles.
- Improved generation quality through Fine-Tuning of NLP models such as BART, T5, or GPT-2.

## PROGRAMMING SKILLS / OTHER

- **Programming:** Python (Pandas, Scikit-learn, PyTorch, Transformers, BeautifulSoup), SQL, TypeScript (TSX);
- **Frameworks Tools:** FastAPI, Git (branching, merging, CI/CD), LangChain, Ollama, FAISS, vLLM
- **Languages :** French (Native), English (TOEFL IBT : 103/120)
- **Sport :** Centrale Lyon Rugby Club (2022-2024), Brazilian Jiu-Jitsu (Gracie Barra Paris), Regional selection for skiing
- **Music :** Drums orchestra and music theory classes for 7 years
- **Theater and Improvisation :** Took part in a theater company for 3 years.