AXEL BERRAL LOPEZ

AI ENGINEER | DATA SCIENCE

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PROFESSIONAL PROFILE

AI Engineer experienced in designing, developing, and deploying end-to-end AI systems, **local LLMs**, RAG, and speech/NLP pipelines in on-premise environments. Background in backend services, APIs, and GPU inference optimization, with a focus on performance, scalability, and production systems.

PROFESSIONAL EXPERIENCE

AI Engineer | MST HOLDING — Dec 2025 - Present

- Designed and developed AI-based call analysis systems for automated agent evaluation, processing thousands of recordings.
- Built end-to-end audio pipelines: ingestion, Whisper transcription, routing/NLP, and LLM-based evaluation.
- Integrated and deployed local LLMs on on-premise infrastructure, with APIs and backend services for orchestration.
- Optimized GPU inference performance and scalability, deploying and maintaining production AI pipelines.

AI Engineer Intern | Stikets — Jun 2025 - Aug 2025

- Built a modular framework for LLM-based AI agents.
- Improved backend and frontend functionality to integrate the framework.

EDUCATION

Master's Degree in Data Science | Universitat Oberta de Catalunya (UOC) — Sep 2026 - Jun 2027

BSc in Computer Engineering | Universitat de Lleida (UdL) — 2022 - 2026

Erasmus Exchange | NTNU, Gjøvik (Norway) | 2025

SELECTED PROJECTS

BSc Thesis - Thermal Prediction with MLP, GNN and Tiny-GNN+PINN. 2D heat-diffusion modeling for edge computing; Full-GNN reduced MSE by ~40% vs MLP, while Tiny-GNN+PINN improved Tiny-GNN by 41.7% at 20% noise.

LoveLink. Recommendation-based social network using machine-learning algorithms and friend-of-a-friend relationships.

TECHNICAL SKILLS

AI / ML: LLMs, RAG, LangChain, Ollama, vLLM, TensorRT-LLM, Whisper, Scikit-learn, Pandas

Backend / Data: Python, FastAPI, Flask, SQL, PostgreSQL, MongoDB, Neo4j, Firebase

Engineering / Infra: Docker, Git, Celery, RabbitMQ, REST APIs, Linux, Java, JavaScript

LANGUAGES

Spanish (Native) | **Catalan** (Native) | **English** (B2) | **Norwegian** (A1)