

Alexandra Zambrano

Software Developer · Python · AI & Machine Learning

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PROFILE

Software developer with over three years of experience and a strong Python and AI focus. I train and ship machine-learning models — PyTorch, ONNX and FastAPI in production — build Python back-end services, and integrate LLMs into real products. As an AI mentor at Factoría F5 I teach Python, machine learning and MLOps, and I bring full-stack experience with TypeScript, React and Next.js plus hands-on DevOps with Docker and Coolify.

EXPERIENCE

Full-Stack Developer, Internal Applications

09/2024 – Present

Factoría F5

- Defined and built internal tools, including an evaluation platform and a staff and student management system.
- Built back-end services in Python and TypeScript and contributed to the Next.js and React front end.

AI Mentor

06/2024 – Present

Factoría F5

- Mentor students from their first steps in Python to building applications with Python frameworks, connecting to databases, creating and integrating APIs, analysing data, training machine-learning models and applying MLOps practices.

Mentor, Full-Stack Web Development & Cybersecurity Bootcamp

10/2023 – 06/2024

Factoría F5

- Designed the course roadmap, evaluations and final-project requirements, and delivered the technical content.

Co-mentor, Full-Stack Web Development Bootcamp

01/2023 – 10/2023

Factoría F5

- Supported the lead instructor, gave group and one-to-one guidance, and assessed students' technical progress.

SELECTED PROJECTS

QuakeScan

github.com/AlexandraZambrano/quakescan

How safe is my home? Post-earthquake damage triage from a photo.

Python · PyTorch · ONNX Runtime · FastAPI · Docker

- Fine-tuned a ConvNeXt-Tiny CNN in PyTorch on 11 damage classes after fixing train/test leakage: 81.3% test accuracy, macro-F1 0.733.
- Served as a quantised INT8 ONNX model behind a FastAPI API, with a bilingual (ES/EN) mobile web app and a review workflow for specialist brigades.
- Tested with pytest and packaged with Docker.
- Built on the 2024 Saturdays AI QuakeScan team project.

Jars

github.com/AlexandraZambrano/jar-in

Local-first personal finance app with an AI coach.

React · TypeScript · RxDB · Groq (LLM) · Vitest · Playwright · Docker · Coolify

- Offline-first PWA that splits income into percentage-based jars across wallets and currencies.
- AI coach powered by an LLM (Groq) that explains budgets using figures computed in code, so the model never invents numbers.
- Spec-driven workflow with end-to-end tests; self-hosted on Hetzner with Docker and Coolify.

Planster

github.com/AlexandraZambrano/planster-editor-app

Writing social network where new writers meet their beta readers.

Next.js · TypeScript · Supabase · Prisma · PostgreSQL · Tiptap · Vitest · Playwright

- Rich-text writing editor (Tiptap) and a multilingual interface (next-intl), with unit and end-to-end tests.

Bootcamp Manager

CRM to manage a diverse team and its users (client project, private repository).

Next.js · TypeScript · Node.js · Express · Sequelize (SQL) · Resend · Docker

- Google sign-in, evaluations, team assignment, PDF and Excel exports and transactional email.

SKILLS

Languages: Python, TypeScript, JavaScript, SQL

Machine learning & AI: PyTorch, torchvision, ONNX Runtime (INT8 quantisation), scikit-learn, LLM integration (Groq)

Python frameworks & tools: FastAPI, pytest, NumPy, Pillow

Web: React, Next.js, Node.js, Express

Data: PostgreSQL, MySQL, MongoDB, Supabase

DevOps: Docker, Docker Compose, Coolify, Hetzner, CI/CD with GitHub webhooks, Git

EDUCATION

BSc Computer Science <i>University of London</i>	10/2023 – Present
Introduction to Machine Learning <i>Saturdays AI</i>	03/2024 – 06/2024
Full-Stack Web Development Bootcamp <i>Factoría F5</i>	05/2022 – 11/2022

CERTIFICATIONS

Microsoft Certified: Azure AI Fundamentals (AI-900)	07/2024
Supervised Machine Learning: Regression and Classification — DeepLearning.AI	09/2024

LANGUAGES

Spanish — native · English — C1 · French — B2