ANGEL ZENTENO
Machine Learning Engineer

✉ angel.zenteno.u@gmail.com | 📱* +591 76475229 | in angel-zenteno-urq | 🌐 Portfolio

Education

EPFL (École Polytechnique Fédérale de Lausanne)   *Lausanne, Switzerland*
M.SC. IN COMPUTER SCIENCE (SPECIALIZATION IN DATA ANALYTICS)   *Sep. 2023 - Oct. 2025*
- Awarded the Simón I. Patiño full scholarship.
- Relevant coursework: Machine Learning, Optimization, Data Analysis, NLP, Reinforcement Learning. CGPA: 5.54/6

UPB (Universidad Privada Boliviana)   *Cochabamba, Bolivia*
B.S. IN COMPUTER SYSTEMS ENGINEERING   *Feb. 2017 - Jul. 2021*
- Graduated with honors: Summa Cum Laude. CGPA: 93.5/100
- Excellence Scholarship winner (awarded to top 3 students in the Engineering Faculty).

Experience

Siemens Healthineers   *Lausanne, Switzerland*
MACHINE LEARNING ENGINEER - MASTER'S THESIS   *Feb. 2025 - Sep. 2025*
- Implemented and trained diffusion models and deep convolutional networks using PyTorch to reconstruct high-fidelity MRI scans from undersampled data.
- Built a data processing pipeline for over 1.3 TB of fastMRI data, handling normalization and preprocessing to speed up large-scale experiments.
- Developed a benchmarking framework to compare classical methods against CNNs and Generative AI, assessing reconstruction accuracy and perceptual quality.

Image and Visual Representation Lab (IVRL) - EPFL   *Lausanne, Switzerland*
COMPUTER VISION ENGINEER (STUDENT ASSISTANT) - RESEARCH PROJECT   *Jul. 2024 - Oct. 2024*
- Developed a real-time deepfake pipeline using Python and OpenCV that integrates the LivePortrait model, showcased at the 'Deepfake and You' exhibition in New York.
- Implemented a custom diffusion model based on the U-Net architecture from scratch in PyTorch for image super-resolution, and evaluated performance using PSNR and SSIM metrics.

CINTI - Research Center for New Computer Technologies - UPB   *Cochabamba, Bolivia*
MACHINE LEARNING ENGINEER / RESEARCH ASSISTANT   *Jun. 2021 - Aug. 2023*
- Built an object detection pipeline by fine-tuning an EfficientDet CNN for chemical element identification, and deployed the model for mobile inference using TensorFlow Lite.
- Trained a Recurrent Neural Network (RNN) from scratch to automate spectrometer calibration, achieving over 80% accuracy in spectral line classification.
- Containerized and deployed a resource management REST API using Django and Docker on company servers, allowing users to schedule and run experiments remotely.

Projects

Autonomous AI Agent Designer

PERSONAL PROJECT   *Sep. 2025 - Nov. 2025*
- Developed a ReAct autonomous AI agent for graphic design using LangGraph, capable of planning tasks, generating/editing images, and self-evaluating outputs via OpenAI and Gemini APIs.
- Implemented agent serving endpoints using FastAPI, utilizing PostgreSQL for persistent state and data storage.

Alpaca-Tutor: LLM-Based Chatbot for STEM Education   *Lausanne, Switzerland*
CS-552 MODERN NATURAL LANGUAGE PROCESSING   *Mar. 2024 - Jun. 2024*
- Fine-tuned a Llama 3 8B model using the Unsloth library to create an AI tutor for EPFL students. Generated a synthetic preference dataset using Chain-of-Thought (CoT) prompting and GPT-4o, improving benchmark accuracy from 37% (baseline) to 47%.

Publications

CINTI - Research Center for New Computer Technologies

- **Zenteno, A.**, Orellana, A., Villazon, A., Ormachea, O. (2023). Automatic Selection of Reference Lines for Spectrometer Calibration with Recurrent Neural Networks, SmartTech-IC 2022.
- Villazon, A., Ormachea, O., **Zenteno, A.**, Orellana, A. (2023). A Low-Cost Spectrometry Remote Laboratory. Lecture Notes in Networks and Systems, Springer.

Skills

Languages & Cloud	Python, SQL, C++, Git, Docker, PostgreSQL, AWS (Amazon Web Services)
Frameworks & Libraries	PyTorch, TensorFlow, FastAPI, Scikit-learn, NumPy, Pandas, Django, OpenCV, Transformers, LangGraph
Machine Learning	Generative AI (Diffusion, LLMs), Deep Learning (CNNs, RNNs), Computer Vision, NLP, Prompt Engineering

Languages

Spoken   English (C1 - Advanced, TOEFL: 106), **Spanish** (Native)