

Marco Antonio Madrid Gonzales

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SUMMARY

Computer Science student at UTEC (7th semester) with experience building real products in production. I have developed RAG systems, AI-powered educational platforms, and multimodal search engines, working with real clients and teams under Scrum. Looking for a role where I can contribute from day one.

PROJECTS

SesiónMás — AI-Powered EdTech Platform Aug 2025 — Present

- RAG system that indexes Peru’s National Basic Education Curriculum (CNEB) to generate personalized learning sessions for Peruvian teachers
- Community repository of sessions, PDF and Excel material exports, and a WhatsApp chatbot for teachers in rural areas with low connectivity
- Stack: Python, FastAPI, React, LLMs via API, WhatsApp Business API, AWS

Project Manager & Developer, AI Tutor — Fe y Alegría N° 59 School Aug 2025 — Nov 2025

- Project developed for the Software Engineering course (UTEC) with a real client: Fe y Alegría N° 59 School
- Led a team of 5 (frontend, backend, QA, analyst) under Scrum with a real client: a language arts teacher at the school
- AI-powered text editor that detects coherence, cohesion, and spelling errors, with personalized feedback for high school students
- Gamification module (levels, challenges, rewards), teacher dashboard with individual/group tracking, and Google Classroom integration; deployed to production on AWS
- Stack: React, Spring Boot, FastAPI, DeepSeek API, PostgreSQL, AWS

Developer, Multimodal Search Engine (github.com/MarcoMadridG27) Sep 2025 — Dec 2025

- Inverted index built from scratch with SPIMI, TF-IDF, and cosine similarity over 128k Spotify songs; up to 9.18× faster than PostgreSQL full-text search on large datasets
- Image search with SIFT/ORB + Bag-of-Visual-Words and audio search with MFCC + Bag-of-Audio-Words; comparative evaluation against pgvector (HNSW)
- Stack: Python, PostgreSQL, pgvector, React, Vite
- Project for the Database Systems II course (UTEC)

HACKATHONS & COMPETITIONS

Educational Innovation Hackathons — 3 editions 2025 — 2026

- 1st edition: built a functional MVP in 7 hours — problem identification, jury validation, and product development
- 2nd edition: iterated and improved the MVP with new features based on jury feedback
- 3rd edition: presented SesiónMás business model to an evaluation jury

SMART CHALLENGE 2026: AI for Mobility in Peru — Kaggle (MTC) 2026

- National competition organized by Peru’s Ministry of Transport and Communications
- Developed computer vision models for vehicle detection and classification
- Ranked 4th place on the national leaderboard

EDUCATION

Universidad de Ingeniería y Tecnología (UTEC) Lima, Peru

B.Sc. Computer Science — 7th Semester Mar 2023 — Dec 2028

- Relevant coursework: Data Structures, Algorithms, Database Systems I & II, Software Engineering, Cloud Computing, Platform-Based Development

SKILLS

- **Languages:** Python, Java, JavaScript, C/C++, SQL
- **Frameworks:** React, FastAPI, Spring Boot, Vite
- **Databases:** PostgreSQL, pgvector, MySQL
- **Cloud & Infra:** AWS, Docker, Git, Linux
- **AI:** RAG, LLMs via API (OpenAI, DeepSeek, Google AI), WhatsApp Business API, Google Classroom API
- **Methodologies:** Scrum, OOP, REST APIs
- **Languages:** Spanish (native), English (B1)