DAMIAN MARQUEZ

Python Backend Developer | Applied AI & Agentic Systems

marquezdamianjob@gmail.com | +598 97 161 522 | Montevideo, Uruguay (GMT-3), open to remote

damian-backend-portfolio.vercel.app | github.com/DevDamianMarquez | linkedin.com/in/damian-marquez

SUMMARY

Python backend developer building FastAPI services, PostgreSQL data models and applied AI systems with verifiable output. Built **FORGE** for the Meta Global AI Developer Hackathon 2026, combining Meta SAM 3.1 perception and Muse Spark tool calling with deterministic Python verification. Designed and deployed **Repuesthogar**, a catalog platform for a retail client (758 products live), and built **ExamGen AI**, an LLM exam generator with structured JSON output. Seeking remote Backend or Applied AI roles.

TECHNICAL SKILLS

Backend & APIs	Python, FastAPI, REST API design, Pydantic, SQLAlchemy, OpenAPI documentation
AI & LLM	Meta Model API (Muse Spark, SAM 3.1), OpenAI SDK, OpenAI-compatible APIs (Groq), tool calling and bounded agents, structured JSON output, embeddings
Databases	PostgreSQL, SQL, data modeling, Alembic migrations, Neon
Security	JWT authentication, password hashing (bcrypt), user-scoped authorization, input validation
Testing & tools	Pytest, Docker, Docker Compose, Nginx, Git/GitHub, Linux, Render, Vercel, Cloudflare, Cloudinary
Frontend (secondary)	React, TypeScript, JavaScript, Next.js, Vite, Tailwind CSS

EXPERIENCE

Freelance Developer — Independent · Uruguay · 2026 – Present

Repuesthogar — Product Catalog Platform (client project) — Sep 2026 – Oct 2026 · repuesthogar.com

Python · FastAPI · PostgreSQL (Neon) · SQLAlchemy · Alembic · JWT · Cloudinary · React · TypeScript · Render · Cloudflare Pages

- Built and deployed a product catalog for an appliance and spare-parts store: 758 products in 12 categories; customer inquiries go to WhatsApp with the product name pre-filled.
- Designed a FastAPI REST API that serves the public catalog read-only and exposes JWT-protected admin endpoints for product CRUD and image upload.
- Modeled the schema with SQLAlchemy, managed changes through Alembic migrations on PostgreSQL (Neon), and imported normalized supplier product lists.
- Offloaded image storage to Cloudinary; deployed the frontend on Cloudflare Pages and the API on Render, and moved the client's DNS to Cloudflare.

Business website (client project, in progress)

- Building a website for a second local business, gathering requirements with the owner and iterating as the scope is defined.

PROJECTS

FORGE — Autonomous Physical Systems Engineer — Creator / Backend & AI Engineer · 2026

Meta Global AI Developer Hackathon 2026 · Live demo · github.com/DevDamianMarquez/forge-ai · Case study

Python · FastAPI · Pydantic · Meta Model API (SAM 3.1, Muse Spark) · OpenAI SDK · Pytest · Next.js · TypeScript · Vercel

- Built and deployed an autonomous engineering prototype combining Meta SAM 3.1 visual perception, Muse Spark agentic tool calling and deterministic Python physics verification for gear transmissions.
- Designed a FastAPI backend integrating SAM 3.1 and Muse Spark through the Meta Model API, with model clients injected behind interfaces so the test suite runs offline.
- Implemented an evidence-validation boundary that keeps unconfirmed visual observations out of physical calculations: only user-confirmed values become a physical model.
- Built a bounded agentic redesign workflow (one tool, at most 3 attempts) in which deterministic constraint checks decide pass or fail and each attempt is recorded in a structured experiment trace.
- Validated the system with 277 backend tests (pytest) and 62 frontend tests, all passing at the current release.

ExamGen AI — AI-Powered Exam Generation (personal project) — github.com/DevDamianMarquez/examgen_ai

Python · FastAPI · Pydantic · SQLAlchemy · PostgreSQL · JWT · OpenAI SDK (Groq) · ReportLab · Docker Compose · React

- Built a FastAPI backend that turns a syllabus into a complete exam (questions, answer key, grading rubric) using an LLM in JSON mode; 15 REST endpoints over a 6-table PostgreSQL schema.
- Implemented JWT authentication with bcrypt (SHA-256 pre-hash to avoid bcrypt's 72-byte limit) and user-scoped queries so users only access their own data.
- Generated student and teacher PDFs on demand with ReportLab; containerized with Docker Compose (PostgreSQL 16 with health check).

EDUCATION & LANGUAGES

Full-Stack Development Program, BIOS EDU · 10-month program · Completed December 2024

Spanish: Native · **English:** Intermediate reading and writing; basic spoken communication