

Juan Segundo Hardoy

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Software engineer focused on building scalable web applications, internal tools, and process automation solutions. Experienced in translating business requirements into practical software systems, with a strong interest in system design, AI engineering, cloud services, and product-oriented development. I thrive in high-growth, high-expectation environments and enjoy taking ownership of technical initiatives while collaborating across teams.

Experience

UMC Y HACIENDAS VILLAGUAY • Corrientes, Argentina

Backend Developer | Data & Process Automation | 01/2026 – Present

- Designed and developed a suite of Python applications integrated with SQL Server (Mantis ERP) and file systems for auction verification via custom scoring, document generation pipelines and financial interest calculation engine.
- Built custom Excel data pipelines and automated web scrapers using Playwright and Python, reducing manual accounting workload by approximately 6 hours per week and achieving 80% operational efficiency.
- Designed and deployed a scheduled serverless pipeline (Python/Playwright) using Azure Container Apps Jobs and Azure SQL to automate registry data extraction, optimizing idle infrastructure costs to zero and automating deployments via GitHub Actions.

Independent Projects

NuestroNido – Family Organization Full-stack Web Application

- Designed and built a collaborative household management platform using *Next.js (TypeScript)*, *Tailwind CSS*, *FastAPI (Python)*, and *Supabase*.
- Implemented real-time data synchronization and a secure user authentication system, applying system design principles to decouple frontend and backend architectures.
- Integrated a custom gamified leaderboard for task resolution, conducting software testing (unit and integration tests) to ensure reliable state management and user data persistence.

Agricultural Handling REST API

- Developed a RESTful API with *FastAPI (Python)* and *MySQL (SQLAlchemy 2.0 / Alembic)* to centralize agricultural campaign metrics, plots, and recommendations.
- Engineered an asynchronous processing pipeline with *Celery* and *Redis*, and integrated Server-Sent Events (SSE) for real-time notifications alongside Google Calendar integrations.
- Maintained code quality via Ruff, Pyright, and Black static analysis, and secured the system using Auth0 + JWT while managing ongoing software maintenance.

LLM Runtime Playground (AI Engineering)

- Designed a framework-less LLM orchestration engine in *FastAPI (Python)* and *Qdrant Vector DB* for document ingestion and retrieval-augmented generation (RAG).

- Applied custom algorithm design to implement context window engineering with dynamic token budgeting (4k limit) and pointer-based conversation summarization.
- Developed a React (TypeScript) developer dashboard to track LLM-as-a-Judge grading metrics, payload debugging, and real-time streaming via Server-Sent Events (SSE).

Education

Universidad Nacional Del Nordeste • Corrientes, Argentina | 2024 – Currently
Bachelor's Degree in Information Systems

Skills & Languages

Programming: Python (FastAPI, Django), HTML5, CSS3, React, Typescript/JavaScript

Databases: MySQL, PostgreSQL, Redis, SQLite

Cloud & Tools: AWS, Docker, Linux, Git/GitHub, AI Tooling & Prompt Engineering

Languages: English (C1), Spanish (native)