Carlos Valladarez

Software Engineer | AI Specialist
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Professional Summary

Action-oriented Software Engineer with over 4 years of experience designing, building, and shipping full-stack systems and AI-powered platforms. Expert in the React/Next.js ecosystems, Python, Java, and modern AI engineering. Recently defended my thesis for a Master's in Artificial Intelligence, specializing in RAG architectures, Vector Search, and Generative AI workflows (LangGraph, LLMs). Proven ability to own complex projects end-to-end, operate in ambiguous environments, and integrate cloud-native services (AWS, Azure) into highly scalable, production-grade products.

Technical Skills

- **AI & Agentic Engineering:** Agentic Workflows (LangGraph, LangChain), LLM Observability & Evaluation (LangSmith, Langfuse), RAG Pipelines, Vector Databases (Pinecone, pgvector, Azure Vector Search), Claude & OpenAI LLMs
- **Languages:** Python, SQL, TypeScript, JavaScript (ES6+), Java 21
- **Frontend:** React, Next.js, Tailwind CSS, Material UI (MUI), Zustand, React Query
- **Backend & Systems:** Spring Boot 3.3, FastAPI, Django, RESTful APIs, Node.js, Apache Kafka
- **Databases:** PostgreSQL (pgvector), SQL schemas, MySQL, Neo4j (Graph DB), Redis
- **Cloud & DevOps:** AWS (S3, Transcribe), Azure, Docker Compose, Git, CI/CD Pipelines

Professional Experience

Software Engineer

Ensolvers (Remote) | *June 2025 - Present*

- Architected and deployed production-grade agentic workflows and multi-agent environments using **LangGraph** and LangChain, integrating internal enterprise tools via structured function calling.
- Designed and optimized high-performance RAG pipelines utilizing Azure OpenAI, **Pinecone**, and **pgvector**, applying semantic search strategies for efficient high-dimensional data retrieval.
- Implemented observability and evaluation mechanisms using **LangSmith** and Langfuse to monitor LLM execution, troubleshoot failures, and track task-success metrics in production.
- Led the frontend architecture of AI-driven platforms (Betti, Betterness) using Next.js, TypeScript, Tailwind CSS, and React Query for seamless user experiences.
- Built and maintained robust full-stack components, connecting backend services (Java 21, Spring Boot), hybrid databases (MySQL, Neo4j), and event-driven data pipelines (Apache Kafka).
- Integrated cloud-native capabilities, including AWS SDK (S3, Transcribe) for automated multimedia processing, and managed containerized environments via Docker.

Software Engineer

Black Horse Software Company SAS | *December 2023 - January 2025*

- Engineered production-grade enterprise applications utilizing Java and TypeScript, owning feature delivery from design to production rollout.
- Built and maintained a Modular Design System, accelerating the development of frontend interfaces and reducing time-to-market by 40%.
- Managed secure API integrations and high-concurrency data processing pipelines with relentlessly high standards for reliability.

Software Engineer

UDIPSAI (Unidad de Diagnóstico e Investigación) | *May 2024 - October 2024*

- Developed and deployed a comprehensive operational tool for patient management, leveraging Next.js (frontend) and Spring Boot (backend).
- Collaborated directly with stakeholders to navigate ambiguous requirements, successfully translating clinical needs into a scalable technical solution.

Software Engineer

Proyetic SAS | *June 2022 - October 2022*

- Developed secure backend services and APIs for a transactional gateway using Python and Django.
- Designed and normalized PostgreSQL database schemas, optimizing SQL query performance and ensuring strict data integrity.
- Built responsive, client-facing interfaces with React to consume internal RESTful APIs.

Software Engineer

Banco del Austro | *May 2022 - October 2022*

- Ensured the stability of corporate banking software through rigorous testing and systems thinking, mitigating critical security vulnerabilities.

Software Engineer

Kodeliv - SAS | *October 2020 - June 2022*

- Developed responsive Single Page Applications using React.js, focusing on clean code practices and seamless API integrations.

Education

- **Master's Degree in Artificial Intelligence** | Universidad Internacional de La Rioja (UNIR) | *Thesis Defended, Degree Pending*
- **Software Engineering Degree** | Universidad Católica de Cuenca | *Graduated February 2025*

Languages

- **Spanish:** Native
- **English:** Advanced (B2)