

Alejandro Zanello

AI Engineer — Agent Runtimes, Multi-Agent Systems & GenAI

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Languages: Spanish (Native) · English (Full professional)

PROFESSIONAL SUMMARY

AI Engineer with 6+ years shipping production software across mobile, backend, and web, now focused on agent runtimes and multi-agent systems. Author of Akashi, an open-source agent framework published on pub.dev as a 14-package monorepo: a streaming tool-calling runtime, token-accurate context management, multi-provider failover by error type, durable checkpoint/resume with human-in-the-loop, OpenTelemetry tracing, and structured-output self-repair to contain non-deterministic model behaviour. Builds LLM systems with LangChain, LangGraph, RAG, and the Model Context Protocol (MCP) in TypeScript and Python. AWS Certified Cloud Practitioner and Coursera Agentic AI Engineering Specialization.

SKILLS

AI & Agentic: LangChain, LangGraph, LangSmith, MCP, RAG, Evals, pgvector, Anthropic SDK, OpenAI, Google Gemini, Vercel AI SDK, Claude Code, Cursor, Windsurf, GitHub Copilot

Languages: TypeScript, PHP, Python, Dart

Frontend: React, Next.js, Tailwind CSS

Backend: Node.js, NestJS, GraphQL, Prisma

Mobile: Flutter, React Native, Ionic

BaaS & Databases: Supabase, Firebase, PostgreSQL, MySQL

Low-Code & Automation: FlutterFlow, GitHub Actions, Make, n8n

DevOps: Docker, Git, GCP, AWS, Vercel

Testing: Playwright, Maestro, Selenium

PROJECTS

Akashi

2026

Dart · Flutter · Multi-Agent · MCP · RAG · OpenTelemetry

Provider-neutral agent framework for Dart & Flutter — a 14-package monorepo published on pub.dev, bringing the agent runtime primitives Python and TypeScript take for granted to the Dart ecosystem. Multi-agent orchestration via subagent-as-tool, control handoffs, and per-step model escalation.

- Agent runtime: streaming-first tool loop with typed tools and dependency injection, composable stop conditions, and a prepareStep context hook — last-N windowing plus summarize-older-than compaction via a cheaper model.
- Multi-provider resilience: FallbackModel fails over across Gemini, OpenAI, and Anthropic behind one contract, taking a shouldFailover(error) predicate to fail over by error type, and blocking mid-stream failover because re-running an emitted stream duplicates output.
- Durable execution: versioned Message/Part serialization over a SQLite checkpoint store; human-in-the-loop approvals suspend a run and resume it in another process.
- Non-determinism hardening: structured output with self-repair; three providers' streaming formats (text, thinking, tool_use) normalized into one sealed union with exhaustive matching.
- Operability: OpenTelemetry tracing, per-call token usage accounting, MCP tools, and bounded-concurrency workflows with retries, backoff, timeouts, and cancellation.

akashi.azanello.com · pub.dev/packages/akashi · github.com/AleSZanello/akashi_agents

mcp-deep-dive

2026

TypeScript · MCP · Anthropic · pnpm

Protocol-first MCP reference in TypeScript: custom server + client + all 3 capabilities (tools, resources, prompts), both transports (stdio + HTTP), with wire-level JSON-RPC logging. No LangChain wrappers.

github.com/AleSZanello/mcp-deep-dive

langgraph-langserve-starter

2026

LangGraph · LangServe · FastAPI · Python

Production-grade REST API template exposing a LangGraph agent via LangServe. Multi-node research agent with SqliteSaver thread-resume, streaming, Langfuse observability, zero-key fake-LLM mode.

github.com/AleSZanello/langgraph-langserve-starter

local-rag-chatbot

2026

LangGraph · RAG · Chroma · Ollama

Fully-local RAG chatbot built with LangGraph + Chroma + Ollama. Multi-Query Fusion and RRF retrieval, SqliteSaver chat history, pluggable LLM provider. Zero API keys required.

github.com/AleSZanello/local-rag-chatbot

langgraph-ts-agents

2026

LangGraph · TypeScript · Multi-Agent · Zod

TypeScript port of LangGraph supervisor/worker patterns - streaming-first, fully typed with Annotation.Root + Zod, HITL approval, side-by-side Python references.

github.com/AleSZanello/langgraph-ts-agents

Somnio AI Tools

2024 - Present

CLI · AI Workflows · Flutter · NestJS

Open-source CLI + AI workflow standard for Flutter & NestJS — orchestrates skills, health checks, and security audits consumable by AI agents. Proposed and authored the workflow spec.

github.com/somnio-software/somnio-ai-tools

NovaMX CRM

2025

Next.js · Supabase · Edge Functions · OpenAI · AI

Real estate CRM with an LLM-powered lead/property classification engine. Public listings + internal lead tracker; agentic scoring runs on Edge Functions on top of Supabase.

novamx.co

Real Estate Platform (NDA)

2026 - Present

Next.js · Supabase · OpenAI · AI

Internal platform with LLM-driven buyer incentive scoring, automated seller reports, and multi-platform listing sync. AI scoring layer on top of Supabase.

School Management Tool

2025

Next.js · Supabase

Internal system for tracking student payments and managing commission processes for referral-based payouts.

Stores Helper

2026

CLI · MCP · AI Agents · Play Store · App Store

MCP-style CLI exposing Play Store & App Store management (products, forms, subscriptions) as tools for AI agents. Lets coding agents read/write store data from the repo.

github.com/AleSZanello/stores-helper

Spec Dev Ralph

2025

Spec Driven Dev

Starter template and guide for Spec Driven Development. Quick entry point for learning and applying the methodology.

github.com/AleSZanello/spec-dev-ralph

PROFESSIONAL EXPERIENCE

FlutterFlow Developer — Somnio Software

10/2024 – Present

Remote

- Core contributor to FlutterFlow's public issue triage, managing 600+ GitHub issues end to end alongside internal triage.
- Proposed and authored the workflow specification behind Somnio AI Tools, an open-source CLI that exposes Flutter and NestJS health checks, security audits, and skills as commands AI agents can consume.
- QA for DreamFlow, an AI app-generation platform: validated LLM prompt outputs and overall platform stability.

Software Engineer — Detecta

07/2023 – 10/2024

Mexico (Remote)

- Built and shipped the Detecta Security Platform, a triple-platform product serving internal operations, customers, and field drivers.
- Integrated real-time GPS fleet tracking via Wialon, backed by Firebase and AWS microservices built with NestJS.

LowCode Specialist — Detecta

08/2022 – 07/2023

Mexico (Remote)

- Delivered production mobile applications with FlutterFlow and Flutter on a Firebase backend.

IT Manager — California Fitness

10/2017 – 11/2021

Cancún, Mexico

- Built and maintained a fully custom web CRM in PHP/MySQL, shipping weekly improvements across all branches.
- Introduced QA automation with Selenium and Cypress covering the CRM and mobile applications.
- Replaced manual business processes with automated workflows; maintained and optimized the production database.
- Managed the external ERP integration project with the vendor, and ran eCommerce and online client support.

Branch Office Manager — California Fitness

01/2016 – 10/2017

Cancún, Mexico

- Managed branch operations, staff training, inventory, and provider relationships before moving into the IT organization.

CERTIFICATIONS

Agentic AI:

- Agentic AI Engineering — Coursera (Edureka), 05/2026 · Specialization
- Developing MCP-Powered Agentic AI Systems — Coursera (Edureka), 05/2026
- Multi-Agent Systems with LangGraph — Coursera (Edureka), 05/2026
- Applied Agentic AI Pipelines with LangChain — Coursera (Edureka), 05/2026
- Building Your First AI Agent with LangChain — Coursera (Edureka), 05/2026

Generative AI & Python:

- Python Project for AI and Application Development — Coursera (IBM), 06/2026
- Building Generative AI-Powered Applications with Python — Coursera (IBM), 06/2026
- Artificial Intelligence Essentials V2 — Coursera (IBM), 06/2026
- Generative AI Essentials — Coursera (IBM), 06/2026
- Generative AI: Prompt Engineering — Coursera (IBM), 06/2026

Cloud:

- AWS Certified Cloud Practitioner — Amazon Web Services, 05/2024

EDUCATION

Engineering, Systems Engineering — *Universidad Interamericana para el Desarrollo, Mexico*

2014 – 2017

Diploma, Mobile Application Development — *Deusto Formación, Mexico*

2015

Bachelor's, International Business — *Universidad Tecmilenio, Mexico*

2011 – 2013