

BRYAM STEVEN LÓPEZ MIRANDA

Software Engineer - Production AI agents, from the API to the phone line

San Carlos, Alajuela, Costa Rica | Open to remote work in Latin America and Spain

Email: bryam.steven.lopez@gmail.com | Phone: +506 6263 3553 | LinkedIn: linkedin.com/in/bryamslm | GitHub: github.com/bryamslm |

Portfolio: portfolio-bryam.vercel.app

Professional summary

Computer Engineer. I build and run complete applied-AI systems: tool-using agents with RAG, memory and deterministic guards, backed by my own data platforms and by real telephony. I work end to end —data model, backend, integrations, interface and Linux operations— with TypeScript, Node.js, Python, PostgreSQL and Asterisk/SIP. What I build runs in production and is verifiable through the links below.

Professional experience

Systems Integration Engineer

AI Solutions CR | Mar 2025 - Present

- Designed and built a multi-tenant conversational AI SaaS for WhatsApp, Messenger, Instagram, web and telephony: 499 migrations, 43 PostgreSQL schemas and 295 RLS policies enforcing per-organization isolation, with outbox, idempotency, feature flags and auditing; 1,136 automated tests green.
- Integrated Voice AI on Asterisk 20 by writing my own AMI client over a raw TCP socket, no library, to originate, transfer and redirect calls: a ~2,000-line dialplan, 6 SIP trunks (Telnyx, DIDWW, Retell), 7 queues and an in-browser SIP console, across 244 endpoints and 105 tables.
- Built Plica Licitaciones CR, a procurement-intelligence engine over ten years of Costa Rican public spend (SICOP, Jul 2016-Jul 2026): 269k tenders, 349k awards and over one million comparable lines, with legal RAG on pgvector, a 24-tool MCP server and a calibrated LightGBM predictor (AUC 0.698, ECE 0.025 against a 0.508 baseline).
- Hardened the security of my own code: closed a CRLF injection in the AMI channel and an RLS policy that allowed deleting the catalog with the anonymous key; left HMAC signatures, constant-time verification and database-level idempotency constraints in place.
- Built Colibrí, a communications platform for public institutions: a dependency-free authorization engine, Asterisk ARI control and 22 custom governance checks in continuous integration.

Software Developer - Professional Internship

Vivo Gaming | Jul 2024 - Nov 2024

- Developed an observability framework for Node.js services, centralizing metrics, traces and diagnostics with OpenTelemetry, Prometheus, Grafana and Elasticsearch.
- Documented the architecture and adoption procedures; the work became my Computer Engineering graduation project.

Technical skills

- Applied AI: AI Agents, LLMs, RAG, tool use, MCP, LangChain, LangGraph, pgvector, agent evaluation, deterministic guards, Retell.
- Backend and full stack: TypeScript, JavaScript, Python, Node.js, Fastify, Next.js, React, REST APIs, webhooks, multi-tenant architecture.
- Data: PostgreSQL, Supabase, Drizzle, analytical SQL, RLS, ETL pipelines, LightGBM, calibrated models.
- Voice AI and telephony: Asterisk 20, PJSIP, AMI, ARI, SIP trunks, WebRTC, SIP.js, Kamailio, RTPengine, Telnyx, DIDWW, LiveKit.
- Security and operations: RLS, HMAC, webhook signing, idempotency, outbox, auditing, Docker, Linux, nginx, Celery, Redis, OpenTelemetry, Grafana, Prometheus.

Selected projects

- Plica Licitaciones CR: the same data engine driven from web, chat and MCP, with verbatim citations. Stack: TypeScript, Next.js, PostgreSQL, pgvector. plica.aisolutionscr.tech
- Voice AI / Voice Ops: agent console, outbound campaigns, warm transfers, recordings and analytics. Stack: Asterisk 20, PJSIP, AMI, SIP.
- Ya Sale: 50% of the product, 100% of the build; QR menus, real-time kitchen and ONVO Pay checkout. Stack: Next.js, TypeScript, PostgreSQL, Supabase Realtime. yasale.app
- Colibrí: capability-based authorization and Asterisk telephony for state institutions. Stack: TypeScript, Fastify, Drizzle, PostgreSQL.
- Retell Flowkit: 8 graph checks; 751/751 tests and 28/28 official templates. Stack: TypeScript, Ajv, Vitest, CLI.
- Traza: per-organization isolation with RLS forced even on the schema owner; CI blocks the merge if a cross-tenant leak test fails. Stack: TypeScript, Next.js, Drizzle, PostgreSQL.

Education

Bachelor's Degree in Computer Engineering — Costa Rica Institute of Technology (TEC), 2020 - 2024. Graduation project: observability framework for Node.js services.

Certifications

JavaScript Algorithms and Data Structures (freeCodeCamp); Mobile Application Development (Google Activate); Professional C++ Course (Azul School).

Languages

Spanish (native) · English (technical reading; basic conversation)