JOAN PELLEGRINO

AI Engineer & Forward Deployed Engineer | Multi-Agent Systems (Google ADK, LangGraph) | FinTech Integrations & Data Pipelines
Monteria, Colombia (Remote) | +57 310-409-6239 | joanpellegrino04@gmail.com | joanpellegrino.com | linkedin.com/in/joanpellegrino

SUMMARY

AI Engineer & Forward Deployed Engineer with nearly 6 years of experience turning complex enterprise and FinTech integrations into scalable production AI products and high-volume data pipelines. Specialized in operating at the intersection of deep engineering and product delivery—bridging stateful multi-agent orchestration (**Google ADK, LangGraph**), secure **MCP** Text-to-SQL, and **RAG** with **deterministic financial cores** that guarantee zero-error transaction processing. Proven track record accelerating client onboarding (*time-to-value*), empowering non-technical business users via self-service AI workflows, and maintaining event-driven cloud infrastructure (**AWS & GCP**) at a **99.9% SLA**.

TECHNICAL SKILLS (AI, FORWARD DEPLOYED & DATA)

Agentic AI: Google ADK, LangGraph, LangChain, Multi-Agent Systems (Router + Specialists), Tool-Using Agents, MCP (Model Context Protocol), Claude Code Plugins & Agentic Skills

LLM, Product AI & Voice: RAG, Text-to-SQL, Gemini API (incl. Gemini Live API), Claude API, OpenAI API, Vector Databases (ChromaDB), Semantic Extraction, Real-Time WebSockets Audio Streaming

AI Safety & Guardrails: Deterministic vs. Probabilistic Isolation, Strict Schema Validation (Pydantic), Human-in-the-Loop Workflows, Read-Only SQL Controls, Session State & Memory (TTL)

Forward Deployed & Backend: Python, FastAPI, PySpark, Pandas, SQL, TypeScript, Payment & Banking REST APIs, Webhooks, Docker, Kubernetes (AWS EKS), CI/CD, Git

Cloud & Data Pipelines: AWS (EKS, Lambda, S3, API Gateway, DynamoDB, SQS, Batch, CloudWatch), GCP (BigQuery, GCS, Vertex AI), Apache Kafka, Snowflake, PostgreSQL, High-Scale ETL/ELT

PROFESSIONAL EXPERIENCE

SIMETRIK INC. - Senior AI & Integrations Engineer

Dec 2020 - Sep 2026 | Colombia (Remote) · B2B FinTech & Financial Reconciliation SaaS

- **Architected and deployed a stateful multi-agent system on AWS EKS** using **Google ADK and LangGraph** (Router + Specialists) across Slack and Zendesk to autonomously resolve operational queries, diagnose CloudWatch logs, and orchestrate **AWS Batch** re-executions with **DynamoDB** memory—enabling self-service product operations and eliminating engineering bottlenecks.
- **Built a conversational Text-to-SQL agent** connected to **PostgreSQL via MCP (Model Context Protocol)**, enforcing strict **Pydantic** schema validation, read-only guardrails, and contextual explanations so product and finance users could self-serve reconciliation insights safely.
- **Delivered a semantic extraction and RAG pipeline** over unstructured banking contracts and API documentation, enabling customer-facing and implementation teams to resolve complex integration edge cases in natural language without specialist escalation.
- **Created the Smart-Parser Claude Plugin** with specialized agentic skills in **Python** to automatically synthesize, validate, and audit custom banking parsers and ETL scripts, drastically reducing client onboarding *time-to-value* and Git PR cycles.
- **Executed end-to-end FinTech & enterprise integrations** across payment gateway **REST APIs** (incl. Yuno / Mercado Pago chargeback flows), SFTP, **AWS S3, GCS, BigQuery, PostgreSQL, and Snowflake**, processing **millions of daily financial transactions** with a **99.9% availability SLA**.
- **Engineered fault-tolerant, deterministic data pipelines** using **Apache Kafka, webhooks, AWS Lambda, API Gateway, and Amazon SQS (DLQ)**, paired with high-throughput **Python and PySpark** validation engines for heterogeneous financial files (MT940, structured PDFs, CSV, Parquet).

FEATURED AI & FORWARD DEPLOYED PROJECTS

Enterprise Multi-Agent Intelligence System (AWS EKS Orchestrator)

Python | Google ADK | LangGraph | MCP | RAG | Text-to-SQL | AWS EKS | DynamoDB

- Central intent router (`gemini-2.0-flash`) classifying incoming product/support events (Slack, Zendesk, CLI) and delegating execution across isolated specialist agents (SQL Query, Documentation RAG, Log Diagnostics, and Safe Job Re-execution).

Smart-Parser Claude Plugin & Real-Time Voice AI Agent

Python | Claude API | Gemini Live API | WebSockets | Web Audio API | TypeScript | Astro

- **Smart-Parser Plugin:** Declarative agentic engine for Claude Code CLI that accelerates customer data onboarding by synthesizing compliant ETL connectors, running security/schema audits, and automating Git Pull Requests.
- **Voice AI Agent (Live at joanpellegrino.com):** Real-time bidirectional voice product powered by Google Gemini Live API over WebSockets with ephemeral token security and a reactive state machine (260+ live user sessions).

EDUCATION & CREDENTIALS

Undergraduate Degree in Systems Engineering / Computer Science - Universidad de Cordoba | 2013 - 2019 | Colombia (Laureate Thesis)
Awards & Certifications: FRONTIER AI Builders Hackathon (Oct 2026: 99/100 score, #8 of 38 teams) | IBM Behind the Code Marathon (AI & Data) | Python 3 Programming - University of Michigan
Languages: Spanish (Native) | English (Technical Reading, Documentation & Async Communication)