Adrián Pabón Mendoza

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Target Role

AI Engineer (LLM/RAG & Computer Vision) | Electronic Engineer (Cum Laude) | Python, PyTorch, FastAPI, SQL, Docker, AWS/Azure/OCI

Professional Summary

Electronic Engineer and AI Engineer focused on building production AI systems (Computer Vision and LLM/RAG). Scaled NAIA from a 500-user pilot to 13,000+ users by integrating OpenAI LLMs, Redis state management, and Microsoft Graph/Azure services. Delivered computer-vision detection improvements reducing manual camera review time by 80%. Comfortable owning end-to-end delivery: data & evaluation, APIs, deployment, and monitoring.

Core Skills

ML/LLM: PyTorch, scikit-learn, Hugging Face, fine-tuning, prompt tuning, embeddings, RAG, prompt engineering, evaluation.
Computer Vision: training/inference pipelines, dataset curation, labeling tools (Roboflow), model deployment.
Backend: Python, FastAPI/Flask, REST APIs, Redis, SQL.
DevOps/Cloud: Docker, AWS (EC2/S3/RDS, Lambda), Azure, Oracle Cloud, IBM Cloud, Terraform.
Tools: n8n, ElevenLabs, vector DBs (Pinecone/Chroma).

Experience

Optimize IT SAS — Barranquilla, Colombia
AI Product Specialist / AI Engineer — *Jul 2024 – Present*

- Improved shoplifting detection in micro-market systems using Computer Vision, reducing manual camera review time by **80%**.
- Trained and evaluated ML models for production use cases (classification/regression as applicable), tracking metrics **(F1/precision/recall/MAE)** and validating on hold-out sets.
- Delivered an LLM/RAG API with embeddings + vector search, iterating on chunking strategy, prompt templates, and retrieval parameters to improve grounded responses in internal workflows.
- Automated OCI database backup workflows (scheduling, validation, notifications) with serverless functions, improving reliability and traceability while reducing manual intervention.

Universidad del Norte — Barranquilla, Colombia
AI Researcher and Developer — *Jan 2024 – Nov 2025*

- Reduced administrative response time from hours/days to 3–5 seconds by deploying NAIA (13,000+ users), enabling self-service answers for routine queries.
- Designed a modular monolith integrating OpenAI LLMs, Redis state, and external services via Azure; implemented secure access patterns through Microsoft Graph API (email/calendar/auth).
- Implemented RAG pipelines (chunking, embeddings, retrieval, reranking if applicable) and defined evaluation sets to reduce hallucinations and improve answer relevance.

Selected Projects

NAIA — Nimble Artificial Intelligence Assistant *2024–2025*
Portfolio link | Multi-role assistant with LLM/RAG + integrations.
- Architecture: OpenAI LLMs + Redis + Azure services + Microsoft Graph API integration.
- Scale: 13,000+ users; defined monitoring and operational workflows for production usage.
- Impact: delivered conversational responses in 3–5 seconds (web architecture baseline).

Shoplifting Detection (Computer Vision) *2024*
Production CV pipeline for micro-market security.
- Data: curated and labeled dataset; trained model(s) with tracking CV metrics **(mAP/F1)** and validated on hold-out set.
- Impact: reduced manual review time by **80%**.

Publications & Research

- **NAIA: A Robust AI Framework for Academic Assistance** — *Systems* (2025).
- **Architectures for AI-Powered Virtual Assistants** — *IEEE TEMSCON LATAM* (2025).
- **NAIA: A Multi-Technology Virtual Assistant** — *IEEE Access* (2025).

- **Itinerary Assignment Optimization** — *IEEE COLCOM* (2024).

Education

Universidad del Norte Barranquilla, Colombia
B.S. Electronic Engineering (Cum Laude) *2020 – 2025*

Certificates & Recognitions

- **Databricks Fundamentals** (2025) | **NVIDIA: Applications of AI for Anomaly Detection** (2025) | **NVIDIA: Generative AI with Diffusion Models** (2025)
- **Speaker:** Cátedra Europa 2024 ("Computer Vision: Un mundo de posibilidades"). | **Award:** Best Science Project (Colciencias, 2019).

Languages

Spanish (Native) | English (Professional / B2+)