

# Mariano Majano Amaya

617-580-6216 | [marianomajano1@gmail.com](mailto:marianomajano1@gmail.com) | [linkedin.com/in/marianoa19](https://linkedin.com/in/marianoa19) | [github.com/mar19a](https://github.com/mar19a) | [marianoamaya.com](https://marianoamaya.com)

## Summary

AI-focused software engineer building backend and RAG-based analysis systems in Python and FastAPI. Experienced integrating LLM APIs, vector search, and deterministic logic to automate validation workflows, with measured reductions in review time and latency. Background includes government data systems, compliance tooling, and API development.

## Technical Skills

**Backend & Systems:** Python, FastAPI, SQL, PostgreSQL, Docker, Git, REST APIs  
**AI Systems:** LLM APIs (Gemini, OpenAI), RAG pipelines, vector search (FAISS), LangGraph, prompt orchestration  
**Frontend:** React, Next.js, TypeScript  
**Infrastructure:** AWS, Kubernetes, Redis, CI/CD, Linux  
**Supporting:** JavaScript, Node.js, Django, Flask, MongoDB, Nginx

## Experience

**LegiGuard** May 2024 – Nov 2025  
*AI Engineer* Boston, MA

- Deployed **compliance engine** analyzing schemas and code, reducing manual review across automated pipelines.
- Built Python/FastAPI RAG pipelines, boosting validation precision by **40%** via optimized vector retrieval.
- Reduced compliance latency by **70%** by generating **traceable, audit-ready evidence** for regulators.
- Combined deterministic static analysis with LLM reasoning into **hybrid workflows** to **suppress false positives**.

**City of Boston** Dec 2023 – May 2024  
*Data Analyst (Backend Focus)* Boston, MA

- Engineered a **Flask API** to unify fragmented municipal datasets for centralized analytics dashboards.
- Boosted data ingestion throughput by **60%** via **multithreaded Python** processing for complex **geospatial data**.
- Optimized **SQL/Pandas ETL pipelines** handling **100K+ records**, reducing reporting latency for policy analysis.

**Emmanuel Inc** Jan 2023 – Jun 2023  
*Developer* Boston, MA

- Developed **Role-Based Access Control (RBAC)** in **Node.js** with **PostgreSQL** to secure data for **50+ users**.
- Extended API and data models to support granular permissions, reducing authorization errors and access issues.

## Projects

**NovaCRM – AI-Driven CRM Automation Platform** | *FastAPI, React, Vertex AI* Deep Dive

- Designed LLM-assisted pipelines to generate CRM schemas, role mappings, and APIs from structured user input.
- Implemented RAG-based document ingestion to convert PDFs into searchable bases for lead qualification.
- Eliminated manual CRM configuration by automating schema and workflow generation.

**AskNova – LLM-Assisted Healthcare Triage System** | *Next.js, TypeScript, Gemini API, MongoDB* Live Demo

- Built an LLM-assisted triage pipeline to transform 500+ patient cases into structured diagnostic prompts.
- Orchestrated multi-step reasoning workflows using Gemini API and LangGraph to simulate differential diagnosis.
- Enhanced output consistency by standardizing symptom extraction and prompt schemas.

**Additional Projects:** Agent-based IoT orchestration system for smart home automation; multi-vendor e-commerce platform with Stripe integration and role-based approvals.

## Teaching Experience

**Computer Systems Institute** Sep 2024 – Present  
*Programming Instructor (Full-Stack)* Boston, MA

- Mentored **40+ students** in **Python, JavaScript, and Django** through hands-on Agile-style sprints.
- Integrated **Git, CI/CD**, and secure development practices, enabling students to deploy apps by week 5.

## Education

**Boston University** Boston, MA  
*Bachelor of Science in Computer Science*

## Certifications

**IBM** Feb 2025  
*AI Developer Professional Certificate* Credential