

# ERIC GABRIEL MANABAT

## FULL-STACK AI ENGINEER

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### EDUCATION

**Pamantasan ng Lungsod ng Valenzuela** | *Bachelor of Science in Information Technology*

2023 - 2027

Honors: **Consistent Dean's Lister (1.03 Running GWA)** | Valenzuela City, Philippines

### PROFESSIONAL EXPERIENCE

**FlyRank AI** | *Full-Stack AI Engineer Intern*

Jun 2026 - Present | Remote

- Architected and deployed an autonomous FastAPI AI sidecar microservice, increasing retrieval accuracy from **81.8% to 86.4% Top-1** on ground-truth benchmarks by engineering hybrid BM25 + dense vector search with Reciprocal Rank Fusion (RRF k=60) and deterministic blend reranking.
- Eliminated out-of-domain hallucinations to achieve a **100% negative query pass rate** and **90% LLM-as-judge relevance score** by designing a bounded 3-step LangChain agentic query loop with cosine similarity gating (<0.50 threshold) and inline citation grounding.
- Reduced time-to-first-token (TTFT) by **~65%** and established real-time operational observability by implementing asynchronous Server-Sent Events (SSE) token streaming APIs, Prometheus /metrics latency histograms, and Grafana telemetry dashboards.
- Delivered full-stack streaming chat interfaces validated across **78 pytest integration tests** and a **27-case golden-set evaluation suite**, eliminating regression failures across synthetic edge cases.

**Nexvision Innovations Inc.** | *Full Stack Software Engineering Intern - Team Lead*

Jun 2026 - Present | Marikina (Hybrid)

- Engineered DOLE statutory compliance algorithms across 4 enterprise applications by designing interval-partitioned time calculations to isolate 10 PM - 6 AM night differentials from standard overtime multipliers.
- Automated statutory deduction and 13th-month proration calculations across **500+ employee records** by developing modular TypeScript/Next.js computation engines with immutable audit logging.
- Streamlined monthly branch audit preparation time from **3 days to under 5 minutes** by building high-throughput multi-sheet Excel/CSV data export engines and state persistence modules.
- Accelerated sprint execution velocity by **40%** across 180+ Jira/GitHub issues as Intern Team Lead by delegating frontend/backend modules, conducting peer code reviews, and enforcing architectural standards.

### FEATURED AI PROJECTS

**PLV eLib - Academic Library AI Sidecar** | *FastAPI, Laravel, LangChain, PostgreSQL, SQLite FTS5, Prometheus, Grafana*

2026

- Architected decoupled dual-engine topology pairing a Laravel 11 monolith with an external FastAPI AI sidecar, lifting Top-1 retrieval accuracy from **81.8% to 86.4%** via SQLite FTS5 (BM25) and dense vectors fused with RRF (k=60).
- Constructed bounded LangChain agentic retrieval loop with deterministic refusals on out-of-domain queries and automated LLM-as-judge verification, achieving a **100% negative query pass rate**.
- Deployed Prometheus metrics and a 6-chart Dockerized Grafana dashboard to track production inference latency histograms and live query feedback streams.

**AGOS - AI-Guided Overflow Surveillance** | *FastAPI, React, YOLOv8, Groq, Docker, Raspberry Pi*

2026

- Fine-tuned custom YOLOv8 object detection model on **5,000 CVAT-annotated** drainage images, automating real-time floating debris and waterway blockage classification.
- Engineered real-time Groq LPU telemetry synthesis service streaming structured flood risk assessments via SSE, integrating multi-model failover that guaranteed zero-downtime analytics across live sensor logs.
- Slashed cloud GPU compute overhead by **92%** by architecting a decoupled batch inference engine that evaluated camera streams on an optimized 3-minute inference cadence.
- Formulated multi-modal hazard scoring engine fusing visual blockage, ultrasonic depth, and weather APIs to trigger 3-tier physical LEDs and queued emergency push/SMS alerts with a 30-minute deduplication cooldown.

### TECHNICAL SKILLS

**AI & Machine Learning:** LangChain, LangGraph, RAG Pipelines, Vector Search (pgvector, Hybrid BM25/Dense RRF), Embeddings, YOLOv8, Groq, OpenCV, LLM-as-Judge Evaluation, Prompt Engineering, SSE Streaming, Prometheus & Grafana Observability

**Languages:** Python, TypeScript, JavaScript, SQL, C#, Java, PHP

**Frameworks & Full-Stack:** FastAPI, Next.js, React, Node.js, Laravel, Tailwind CSS

**Databases & Cloud:** PostgreSQL, Redis, Supabase, Docker, AWS, GitHub Actions

### HONORS & CERTIFICATIONS

- LLM Zoomcamp - Production LLM & RAG Engineering Bootcamp** | DataTalks.Club | Aug 2026
- Learn RAG (Retrieval-Augmented Generation)** | Boot.dev | 2026
- Global Cyber Skills Benchmark (Project Nightfall)** - Ranked 63/589 Global Teams | HackTheBox | May 2026
- Google Cybersecurity Professional Certificate** | Google | Jan 2026
- Mastering REST APIs with FastAPI** | Packt / Coursera | May 2026
- ITlympics 2026 - Silver Medal** | Capture the Flag | Pamantasan ng Lungsod ng Valenzuela | Mar 2026