

Aman Zainal.com

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EXPERIENCE

Aero Plus Group, *Founding AI Engineer — AIRAP (tech subsidiary)*

Feb 2026 - Jun 2026

- **Led engineering across the group** — hired and managed a team of **8 engineers** (5 China, 3 Singapore) and ~\$25k in hardware procurement, owning the AI/software portfolio delivered to its operating companies:
- **AeroPlus** (*cross-border aviation-parts trading*) — Lead engineer on the **records-audit tool** (**FastAPI**, **Supabase**): a multi-stage LLM pipeline that ingests ~10GB PDF/image packages and auto-fills airworthiness checklists (26-item engine, 72-item airframe) with discrepancy flags + page-level citations — **95% accuracy** across 8 sample audits, compressing 2–5 analyst-days into ~2 hours for \$500k+ transactions. Also led **APE**, an AI-brokered parts marketplace (broker agent + deterministic seller-matching engine).
- **Epico Wine & Spirits** (*B2B distribution*) — Built **EASI App** as a 2-engineer team: a B2B spirits ordering & distribution platform — **React Native** mobile, 4 **Vite/React** ops portals, a **C#/.NET** AutoCount bridge, **Supabase**; shipped a working build + closed the sales agreement in ~2 weeks.
- **The Winery** (*F&B, two outlets*) — Scoped table-ordering/payments (Qlub) and restaurant KPI reporting.

A*STAR ARTC, *AI Research Engineer*

Aug 2025 - Mar 2026

- Built a **conversational AI interpretability layer** on top of A*STAR’s internal demand forecasting models — translates raw model outputs into natural-language explanations and **SHAP**-driven attributions for non-technical supply-chain planners. Cuts planner workflow from ~40 minutes to ~2 minutes per forecast.
- Three-agent design on **Dify** (intent extraction, tool calling, synthesis) over a **Flask** forecast backend with SHAP + on-demand visualizations; LLMs via **OpenRouter**. v0.1 prototype on 100 SKUs over 12-month horizons, ~3s end-to-end latency.

Hyundai Singapore (HMGICS), *DevOps Engineer*

Jan - Jun 2025

- Planned and drove a **monolith** → **19-server** service-isolation migration end-to-end (architecture, approvals, company-wide execution); built **ThingWorx** applications for HMGICS’s connected-manufacturing platform.

KABAM Robotics, *Backend Software Engineer*

May - Aug 2024

- On the Smart+ team for the **Co-Lab indoor robot** platform: built **PostgreSQL**-backed API endpoints, structured logging, and third-party device integrations; resolved major tech debt by hand-merging a **20,000-line PR** that consolidated two divergent dev branches.

SELECTED PROJECTS

- **localtok** (github.com/amanzainal/localtok) — *open source*. “http for local LLM inference”: a **Textual** TUI for live tokens/sec, VRAM, and loaded models across **Ollama** / OpenAI-compatible / **NVIDIA** backends. Python, 44 tests.
- **specdecode-roi** (github.com/amanzainal/specdecode-roi) — *open source*. Speculative-decoding ROI benchmark across **Ollama** / **vLLM** / **llama.cpp** (acceptance rate, tok/s, TTFT, VRAM). Python, 42 tests.
- **Banyan** (banyan.family) — *live B2C product*. Real-time collaborative family tree; **Next.js**, **Supabase** Realtime/RLS, **React Flow**.
- **Virtual Wardrobe** (virtual-wardrobe.com) — *live B2C product*. Generative-AI clothing try-on; **FastAPI** + **React/Expo**, self-hosted **ComfyUI** on GPU, **Stripe** billing.

SKILLS

Languages:	TypeScript, Python, C#, SQL
AI / Agentic:	Claude, Codex, MCPs, Claude Skills, harness engineering, browser-use, evals
Frameworks:	React, React Native, Next.js, FastAPI, Supabase, .NET
Tools:	Docker, Git, Vercel

EDUCATION

National University of Singapore — B.Eng. Computer Science & Mechanical Engineering

May 2026

ASEAN Scholar — selective Singapore Government MOE scholarship