Amirul Azizol

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OVERVIEW

Machine learning engineer based in Singapore with a research and software engineering foundation. Experienced in computer vision, NLP/LLM pipelines, and scalable backend systems.

TECHNICAL SKILLS

Languages: Java, Python, TypeScript/JavaScript, SQL, C++, Swift
Infrastructure & Tools: AWS, GCP, Docker, Kubernetes, Jenkins, CI/CD, PostgreSQL, Git
Frameworks: Langchain, Spring Boot, FastAPI, React, Next.js, Node.js, Angular
Machine Learning: PyTorch, Transformers, Ray, PyArrow, LanceDB (RAG)

EXPERIENCE

Machine Learning Engineer   Apr. 2025 – Present
TransPerfect   *Singapore*
  – Drove NLU, ASR, TTS for a big tech voice assistant (**500M+** users) to improve Malay language performance.
  – Fine-tuned transformer-based models and resolved **300+** intent detection bugs. (PyTorch, Ray)
  – Shipped **50+** localized features by implementing new logic, triaging bugs, and validating integration tests.
  – Constructed high-quality datasets for low resource languages (Malay, Indonesian) for several domains.
  – Designed and implemented rule-based filtering heuristics that reduced overall dataset noise by **23%**.
  – Deployed and monitored fine-tuned models in a live environment to diagnose failures. (Kubernetes)
  – Built an automated end-to-end test suite, reducing manual QA effort by **90%**. (Python, Swift)
  – Refactored an internal data labelling tool to use multithreading, leading to a **5x** speedup. (Python, C++)

Software Engineer Intern   Jan. 2024 – Jun. 2024
Wavelet Solutions   *Kuala Lumpur, Malaysia*
  – Optimized infrastructure and ensured reliability for an ERP processing **1M+** monthly financial transactions.
  – Engineered asynchronous ETL job processors to migrate **5M+** records to a centralized data lake. (SQL, AWS)
  – Designed RESTful APIs using Spring Boot, enforcing strict error handling to meet a **99.9%** uptime SLA. (Java)
  – Developed and deployed a UI module for 10+ applets, adopted by thousands of enterprise users. (Angular)
  – Refactored a mobile app to improve performance and cut page loading times by 30%. (Flutter)

Embedded Software Engineer Intern   Nov. 2023 – Jan. 2024
Western Digital   *Kuala Lumpur, Malaysia*
  – Engineered C++ firmware features and Python failure analysis scripts for enterprise HDDs.
  – Reduced the host interface team's bug backlog by **21%**.
  – Optimized Jenkins CI/CD pipelines by improving retry logic, reducing false positive build failures.

PROJECTS

Multimodal LLM with RAG for Domain Analysis
  – Awarded 2nd best final year project in cohort for research potential in medical imaging.
  – Fine-tuned an 8B vision-language model, improving accuracy by **30%** over baseline by integrating RAG and CoT.
  – Architected a vector database with a custom chunking algorithm and a hybrid retrieval algorithm.

RxNet
  – Built a decentralized prescription tracking system with smart contracts to prevent fraud and improve traceability.
  – **Finalist** at APU Devmatch and **cash prize winner** at Monash Hackfest.

Ren
  – Developed a gamified environmental community app, ranked Top 10 at Kitahack (for Google Solution Challenge).

EDUCATION

Monash University   Feb. 2022 – Apr. 2025
Bachelor of Computer Science; Major in Advanced CS, Minor in Cybersecurity
  – **GPA: 3.92/4.0** | WAM: 87.1 (Top 1% of Cohort)
  – Awards: Monash High Achiever Award, Industry Based Learning Scholarship.
  – Teaching Assistant: Theory of Computation (FIT2014) & Intro to Programming (FIT1045).