

Amirul Azizol

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OVERVIEW

Early-career machine learning engineer based in Singapore with a software and research foundation. Experienced in NLP / LLM pipelines, scalable backend systems, and interested in computational linguistics, computer vision, and applied ML.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, Go, Dart, C/C++, Swift
Frameworks: React, Next.js, Node.js, Angular, Spring Boot, FastAPI, Flutter, Firebase
DevOps/Cloud: Docker, Jenkins, Kubernetes, AWS, GCP, TeamCity, Git
Machine Learning: PyTorch, scikit-learn, Transformers, Ray, Langchain, OpenCV, Hugging Face
Data & Databases: Pandas, Numpy, PyArrow, Joblib, SQL, PostgreSQL, Pentaho

EXPERIENCE

Siri Language Engineer

Apr. 2025 – Present

Apple (contracted via TransPerfect)

Singapore

- Engineered ML components for Malay voice assistant: automatic speech recognition, natural language understanding, text-to-speech, agentic LLMs 🧙.
- Built knowledge graphs and multilingual datasets for 10+ domains (10K+ entries) for production systems, in collaboration with data curators. (PyArrow)
- Fine-tuned transformer-based semantic parsing and execution routing models, addressing 200+ bugs and new use cases while achieving high recall and precision. (PyTorch, Ray)
- Conducted ML experiments to analyze model performance, reducing noise in data by 23%. (PyTorch, Kubernetes)
- Automated UI interactions to test voice assistant end-to-end, reducing manual QA time by 80%. (Python, Swift)

Software Engineer Intern

Jan. 2024 – Jun. 2024

Wavelet Solutions

Kuala Lumpur, Malaysia

- Built core platform and infrastructure for BigLedger ERP 🧙, which processes 1M+ monthly transactions.
- Developed, tested, and deployed a new UI setting across 10+ modules, adopted by thousands of users. (Angular)
- Refactored a mobile app for a client, improving performance and cutting media load times by 40%. (Flutter)
- Built queue tables and ETL job processors to migrate 5M+ legacy records to a centralized datalake. (SQL, AWS)
- Designed APIs to ensure reliability for 100–200 peak QPS with high uptime. (Java, Spring Boot, REST API)

Firmware Engineer Intern

Nov. 2023 – Jan. 2024

Western Digital

Kuala Lumpur, Malaysia

- Developed firmware for eHDD hardware features, and implemented test scripts for failure analysis. (C++, Python)
- Collaborated with cross-functional teams to adapt test suites and optimize CI/CD processes. (Jenkins)

PROJECTS

LLM with RAG for VQA (Final Year Project) 🧙

- Awarded **2nd best** FYP among our cohort for research potential in medical imaging.
- A multimodal LLM system for answering medical and forensics questions with retrieval-augmented generation.
- Fine-tuned an 8B vision-language model 🧙 for VQA, achieving a **30%** accuracy improvement with RAG and CoT.
- Implemented RAG as a vector database with a custom chunking algorithm and hybrid retrieval mechanism.

RxNet 🧙

- Solana-based blockchain prescription system, with smart contracts to improve drug traceability and reduce fraud.
- Finalist** at APU Devmatch and **cash prize winner** at Monash Hackfest.

Ren 🧙

- Community-driven environmental app - **Top 10** at Kitahack, part of Google Solution Challenge.

EDUCATION

Monash University

Feb. 2022 – Apr. 2025

Bachelor of Computer Science, Major in Advanced CS, Minor in Cybersecurity

Kuala Lumpur, Malaysia

- GPA: 3.92 — WAM: 87.1
- Recipient of Monash High Achiever Award (top 1% of cohort) and Industry Based Learning scholarship.
- 2 years experience as teaching assistant for Theory of Computation (FIT2014) & Intro to Programming (FIT1045).