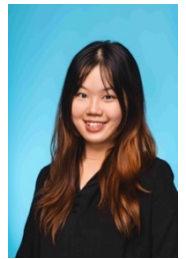


Ng Yin Zi

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Final-year Computer Science undergraduate at the National University of Singapore (NUS) and two-time regional hackathon winner, with software engineering experience across full-stack products, backend systems, data infrastructure, AI applications, and cloud-native production environments. Experienced in building production services, APIs, real-time data pipelines, and user-facing applications using Python, Java, TypeScript, React, SQL, Kafka, Redis, AWS and Kubernetes, with hands-on observability experience using Prometheus and Grafana.

Available for internship roles Feb-May 2027, Available for full-time roles June 2027 onwards



EDUCATION

National University of Singapore: Bachelor of Computing (Honours), Major in Computer Science (AI & Database Systems)

- National University of Singapore's Honours College Programme
- Awarded NUS Merit Scholarship
- Alumna of the NUS Overseas College (NOC) New York Program

August 2023 – May 2027

WORK EXPERIENCE

Software Engineer Intern

August 2026 – Present

Binance – Infra, AI & Big Data Team (Singapore)

- Develop and analyze **Python, SQL and Spark SQL-based batch data pipelines** for blockchain security intelligence, integrating external incident data with **large-scale internal datasets across Hive/Hudi and StarRocks** to validate high-risk addresses and downstream risk signals
- Analyze **production ETL and multi-stage data-processing workflows** to identify coverage gaps, stale state and processing failures; propose and validate fixes to improve **data completeness, reliability and downstream consistency**
- Work across the AI & Big Data Team's batch and real-time data infrastructure, including Spark, Hive, Kafka, Flink, Hudi and StarRocks, to understand and enhance **multi-chain data ingestion, transformation and analytical serving workflows**
- Develop an **LLM-powered security intelligence agent** that converts unstructured blockchain incident data into **structured, source-backed risk signals** for automated downstream workflows

Full Stack Software & AI Engineer (Intern)

August 2025 – July 2026

Simulacra Synthetic Data Studio (New York City)

- Worked across an **AWS-hosted production stack (R, JavaScript, TypeScript, C++)** with **Kubernetes, ShinyProxy, Prometheus & Grafana**, improving deployment visibility, system reliability & debugging workflows for internal & customer facing users
- Designed & implemented a **full Admin Panel** for a **multi-tenant SaaS** platform, with **Auth0 authentication**, strict **RBAC**, user/team/role management, hierarchical usage limits, & **Postgres-backed** quota enforcement with proactive **SendGrid** alerting
- Built **end-to-end data validation & model evaluation pipelines** for enterprise synthetic data benchmarking, covering subsampling, model training, synthetic data generation, **MAE/ RMSE evaluation**, & multi-run stability testing; reduced manual validation effort by **over 70%**
- Developed & shipped **10+ customer-facing & internal product features in React & TypeScript**, collaborating directly with clients across Japan, France, the Philippines and the US to gather requirements and deliver reporting, analytics and admin workflows tailored to operational needs

Full Stack Software Developer (Intern)

May 2025 – August 2025

AquaShield Solutions (Singapore)

- Designed and containerized **Django backend APIs and data-ingestion services** with Docker for telemetry from **50+ IoT sensors**, implementing payload validation, idempotent event processing, and Redis-backed state caching for reliable data processing
- Built a **real-time event-driven data pipeline using Kafka, Redis, Django Channels and WebSockets** to stream live telemetry
- Developed internal monitoring and maintenance tooling for backend services, **reducing debugging time by over 30%**
- Built **React & TypeScript dashboards** that transformed complex sensor data into operational views for monitoring water quality & system risk
- Integrated **machine-learning predictions into backend APIs and downstream user-facing workflows** in collaboration with AI engineers

COMPETITIONS & PROJECTS

Winner at Create4Good Hackathon (Singapore University of Technology & Design X ESSEC Business School)

March 2024

- Led **Team LightBox** as Team Leader & Software Engineer to prototype a sensor-equipped pill box & full-stack companion mobile app for elderly care, focusing on medication adherence, caregiver visibility & practical usability for older users
- Won first place against international teams** from Singapore, France & Madagascar by pitching the product's technical feasibility, user impact & implementation pathway to judges & investors

Winner at Asian Business Plan Competition, Awarded MVP of winning team

July 2024

- Led **FidusRide** as Team Leader & Software Engineer, creating a quality assurance network enabler to tackle cleanliness, dispute resolution, & fleet management inefficiencies in car-sharing

- Prototyped a **Spring Boot backend with REST APIs and real-time event flows** for ingesting sensor data, triggering automated workflows, and surfacing fleet health to operators
- **Secured first place** against top university teams from Singapore, Hong Kong, & Taiwan

Finalist at DSTA BrainHack

May 2025 – June 2025

- Built a **full-stack React Native mobile app and Telegram bot** for scam reporting and community awareness, backed by Supabase/PostgreSQL data workflows for storing reports, verification metadata, and downstream processing
- Developed **Python processing pipelines** for report summarization, duplicate detection, and content transformation, integrating Gemini AI and evaluating outputs with DeepEval to achieve **81% contextual precision**

Impact Experience Programme in Cambodia – Low-Connectivity Language Learning App

May 2024 – April 2026

- Built a **React Native/Expo** language-learning app with interactive game features for Cham village children in low-connectivity environments
- Integrated **Supabase** for backend storage and reliable access to learning content in resource-constrained settings

NexusBook – TypeScript & NestJS Full Stack Contacts Manager

June 2025

- Built a full-stack contacts manager with **React 18, TypeScript, Redux Toolkit & a NestJS** API backend
- Implemented card-based browsing, favourites, search & sorting with a fully responsive Tailwind CSS UI & smooth client-side interactions
- Designed a stateless, in-memory backend, showcasing clean separation of concerns, simple caching & low-latency client-side filtering/sorting

VibeCast – Full Stack Mood Tracking & Recommendation App

April 2025

- Built a cross-platform React Native app for mood tracking and personalized content
- Integrated Supabase, Spotify and TMDB APIs to support backend data storage and real-time mood-based recommendations

Movie Library App – React Movie Discovery Web Application (Deployed: movielibrary-seven.vercel.app)

February 2025 - March 2025

- Designed & developed a **responsive React web application** featuring 300+ movies, dynamic movie cards, & smooth search functionality
- Built with **React, Firebase, TMDB API & Tailwind CSS**, optimizing performance through efficient input debouncing & state management

LEADERSHIP

Founder & Vice President, NUS Cloud Club (AWS)

October 2025 – Present

- **Founded & led NUS' first AWS-affiliated Cloud Club**, building a student community focused on practical cloud infrastructure, DevOps and software engineering
- Secured faculty endorsement and AWS approval and lead technical workshops, hackathons and industry collaborations

Project Lead, NUS Women in Tech Computing Club

October 2023 – Present

- Led technical community initiatives including hackathons & summer code camps for female students, creating accessible pathways into computing for students within & beyond NUS
- Partnered with **Morgan Stanley, UBS & PayPal** to run 3 major events for 200+ female undergraduates, coordinating stakeholders across industry, student teams & university communities

Mentor for WinTech Wonderland & by NUS Women In Tech Computing Club

December 2023 – January 2024

- Mentored over 5 NUS Computing students in creating their own websites, applications & interactive projects using JavaScript, Python & Java

Vice Project Director for NUS School of Computing's Freshmen Finale Camp

December 2023 – August 2024

- Spearheaded the design & execution of a four-day camp for 400+ undergraduates, driving program innovation & participant engagement
- Directed & streamlined operations across Programmes, Logistics, Finance & Secretary committees, ensuring flawless coordination & impactful delivery

SKILLS

- **Programming Languages:** Python, Java, TypeScript, JavaScript, SQL, R, C
- **Cloud & Infrastructure:** Kubernetes, Docker, AWS, Prometheus, Grafana, GitHub Actions, ShinyProxy
- **Backend & Distributed Systems:** Kafka, Redis, PostgreSQL, Django, SpringBoot, NestJS, REST APIs, WebSockets
- **AI & Machine Learning:** LLMs, AI Agents, RAG, Prompt Engineering, Embeddings, Vector Search, Evaluation, DeepEval
- **Frontend & Mobile:** React, React Native, Expo, Tailwind CSS, Redux Toolkit
- **Tools:** Git, GitHub, Figma, Auth0, SendGrid
- **Leadership & Communication:** Product thinking, project leadership, stakeholder communication, pitching, collaboration
- **Languages:** Native English, Native Mandarin, Basic Conversational Korean, Basic Conversational Taiwanese