

# Tan Hiok Kuek

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## PROFESSIONAL SUMMARY

Computer Science student with practical experience building full-stack applications, managing containerized environments, and developing cloud infrastructure. Proven ability to optimize system performance, automate workflows, and teach programming fundamentals to 20+ students. Proficient in Python, TypeScript, Docker, and Linux systems. Known for enthusiasm, accountability and collaboration in team environments. Available for internship July 2026 - December 2026.

## CORE COMPETENCIES

- Full-Stack Development
- Git
- Cloud Architecture (AWS)
- DevOps & Automation
- AI/ML Integration

## EDUCATION

**National University of Singapore** Aug 2024 – Nov 2027 (Expected)  
*Bachelor of Computing in Computer Science (Cumulative GPA 4.64)*

## WORK EXPERIENCE

- NUS School of Computing – Undergraduate Teaching Assistant** Jan 2026 – Present
- Delivered lab sessions on Object-Oriented and Functional Programming abstractions in Java, strengthening 13 students' understanding of CS fundamentals and type systems.
- NUS-NCS Cybersecurity Lab – Research Assistant** Aug 2024 – Aug 2025
- Sole frontend engineer owning architecture, performance, and delivery for a production platform used by 10,000+ users.
  - Reduced AWS Cost by 50% (\$200/day to \$100/day) through scalable architecture and automation using cloudwatch.
  - Built backend AI workflows using Python and modern LLM orchestration tool to detect phishing emails.
  - Designed dashboards enabling comparison between workflows, activity tracking and decision-critical insights.
  - Built cross-platform browser extension bundled with a native host, that supports on-premise email phishing detection.
  - Stabilised production systems by migrating AWS infrastructure over to Terraform under tight deadlines.
- Singapore Armed Forces – Deputy Head Ops and Security Officer** Jan 2023 – Nov 2023
- Coordinated training logistics and data security operations for 300+ personnel, implementing PowerBI dashboards and Excel automations that streamlined training schedule tracking and improved planning efficiency by 40%.
  - Achieved operational excellence through effective personnel management and process optimization, earning Sword of Merit and Commanding Officer's Coin for outstanding performance.

## TECHNICAL PROJECTS

- Agentic Social Media Content Generator – AI Agents & LLM Orchestration** Sep 2025
- Built AI content pipeline with GPT-4, Claude, and LangSmith for automated Reddit scraping and script generation, generating 1M+ views.
  - Optimized LLM performance through comprehensive monitoring, reducing API costs.
- HomeLab Infrastructure – Personal Server & Automation** Jul 2025
- Built and managed Linux home server infrastructure with Docker containerization, Cloudflare Tunnels for secure access, and automated backups, achieving 99.9% uptime.
- Tanbucha – E-commerce Platform** May 2025
- Built responsive e-commerce platform with Next.js and TypeScript, integrating Stripe payment processing and automated email notifications.
  - Drove 50+ organic visitors and 100+ sales through SEO optimization, mobile-first design, and performance tuning strategies.

## HONORS & TECHNICAL COMPETITIONS

- |                               |                            |                                |
|-------------------------------|----------------------------|--------------------------------|
| • NUS Hackers Hack&Roll (1st) | • SplashAwards 2023 (1st)  | • SUTD WhatTheHacks 2023 (1st) |
| • CloudHacks 2023 (1st)       | • GroundZero 2024 (Finals) | • NUS CHS Case Comp (Finals)   |

## ADDITIONAL INFORMATION

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- **Languages:** Python, Java, Javascript, TypeScript, Terraform, Bash, SQL
- **Frameworks:** Next.js, React, React Native, Plasmo, Flask, FastAPI, Node.js, Langchain
- **Developer Tools:** Git, Docker, AWS, Microsoft Azure, Google Cloud Platform, Firebase, Supabase
- **Certifications:** [AWS Certified Solutions Architect - Associate \(SAA-C03\)](#)
- **Interests:** Running, Bouldering, Diving