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 archictecture 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)
- CloudHacks 2023 (1st)
- SplashAwards 2023 (1st)
- GroundZero 2024 (Finals)
- SUTD WhatTheHacks 2023 (1st)
- NUS CHS Case Comp (Finals)

ADDITIONAL INFORMATION

- **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