Tan Hiok Kuek

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PROFESSIONAL SUMMARY

Computer Science student with hands-on experience in secure system design, software development, and cloud infrastructure. Built production-grade AI pipelines for phishing detection, managed containerized environments with Docker, and implemented secure backend archictecture. Strong programming fundamentals in Python, TypeScript, and Java, with experience managing operations and data security for 300+ users. Passionate about applying technical skills in cybersecurity and software engineering to support national security missions. Known for enthusiasm, accountability, and collaboration in team environments. Available for internship July 2026 - December 2026.

CORE COMPETENCIES

- Java
- React JS
- Javascript
- Cloud Architecture (AWS)
- Python
- Full-Stack Development

EDUCATION

National University of Singapore   Aug 2024 – Nov 2027 (Expected)

Bachelor of Computing in Computer Science (Cumulative GPA 4.64)

- Ngee Ann Kongsi Scholarship for AY 25/26

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