

# Kairos Tay

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## EDUCATION

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**Ngee Ann Polytechnic**, *Cybersecurity and Digital Forensics* April 2023 – May 2026

- **CGPA:** 4.0/4.0 (Top in cohort)
- **Awards:** CSIT Gold Medal & Prize, Group-IB Prize
- **Scholarship:** DSTA Polytechnic Digital Scholar
- **Leadership:** President, NullSec: Led CTFs, cybersecurity workshops, and YCEP in collaboration with CSA.
- **Competitions:** WorldSkills Singapore 2025 – 3rd; CDDC 2024 – 3rd; GreyCTF 2025 – 6th
- Represented Singapore at the Global Cybersecurity Camp 2025, winning the "Best Project" award.

## PROFESSIONAL EXPERIENCE

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**Security Researcher**, *DSO National Laboratories* April 2026 – Present

- Driving research and development for automated vulnerability discovery.

**Cybersecurity Engineer**, *Defence Science & Technology Agency* March 2025 – March 2026

- Developed a full-stack malware analysis pipeline using Vue.js, Python, Docker, and Kong API Gateway, enabling automated submission, orchestration, and reporting of malware analysis workflows.
- Engineered and maintained malware unpacking, deobfuscation, and decompilation tools, reducing manual analysis time by over 10x.

**DevSecOps Engineer**, *Ensign InfoSecurity Pte. Ltd.* August 2024 – February 2025

- Drove research and development for proactive cybersecurity solutions to safeguard client infrastructure.
- Engineered attack surface management and web defacement monitoring tools to continuously discover exposed assets, detect compromise, and support proactive remediation for client environments.

**Research Intern**, *Science Centre Singapore* January 2021 – February 2022

- Engineered an embedded systems solution (Arduino, C++) to minimise experimental error in kinetic studies to  $\pm 1\%$  precision
- Authored and presented a research paper at the 28th Youth Science Conference.

## PROJECTS

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### 404Unfound CTF Team

- Founded a CTF team (404Unfound.com [@](#)) for cybersecurity enthusiasts to learn from each other.

### Quantum Casino, Best Project Award at the Global Cybersecurity Camp 2025

- Developed a secure casino application leveraging quantum computing principles via Qiskit to ensure cryptographic randomness and provable security.
- Integrated cryptographic properties to guarantee game fairness, secure user data, and mitigate traditional cyber vulnerabilities against tampering.

### Infrastructure Homelab

- Built and maintained a personal homelab to experiment practically with hardware setups, network configurations, and enterprise architecture.
- Hosted and maintained various tools, including AdGuard DNS, VPNs, a SIEM, to continuously develop system administration and security monitoring skills.

## TECHNICAL SKILLS

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### Languages

Python, C#, C++, Bash, HTML5, CSS3, JavaScript

### Developer Tools

Docker, Azure Cloud Services, Git, Unix

### Cybersecurity Skills

Digital Forensics, Malware Analysis, Penetration Testing, System Administration, Cryptography