

EDUCATION

Nanyang Polytechnic

Apr 2024 - Apr 2027

Diploma in Information Technology

- Director's List (AY2024/25 Sem 1 & 2, 2025/26 Sem 1)
- CGPA: 3.91/4.00

Anderson Secondary School

Jan 2020 - Dec 2023

O-Levels

- Part of the Math Talent Development Programme & Humanities Talent Development Programme

PROJECTS

Fullstack Development Project - Inventory Management System

- Developed a full-stack inventory management system for Ng Guan Send Woodworking Industrial as a school project
- Built using TypeScript, React, Express, and Docker
- Led my team as the leader, coordinating development and deadlines
- Implemented a centralized dashboard for managing inventory, orders, shipments, and suppliers
- Designed automation features to reduce manual workload, including an email scanner for automatic data entry
- Deployed the frontend on AWS S3 with Cloudfront, and the backend on AWS ECS

Quark - Basic Programming Language

- Designed and implemented a compiled programming language using C++ and LLVM
- Gained hands-on experience with programming language internals, including lexical analysis, parsing, and code generation

Cospace Rescue - Autonomous Virtual Robot

- Developed a virtual autonomous robot in C for the CoSpace Rescue Competition to locate, collect, and deposit objects across a simulated environment
- Implemented efficient pathfinding algorithms, including A* and Theta*, for optimal navigation
- Implemented odometry to improve robot localization accuracy
- Built data visualizations in Python to analyze robot paths and iteratively optimize navigation strategies
- Used OpenCV in Python to process map images, converting them into 2D arrays for obstacle and trap detection
- Implemented a PID controller for stable and precise robot steering and movement

CO-CURRICULAR ACTIVITIES

NYP Infosec Special Interest Group

Apr 2024 - Present

President

- Oversaw and coordinated NYP Infosec events and operations, including administrative tasks such as proposal writing and planning
- Managed multiple departments (Publicity, System Administration, Events, and CTF Challenge Development) to ensure efficient and smooth operations
- Implemented standard operating procedures (SOPs) to streamline workflows and improve organizational efficiency
- Served as Overall-In-Charge for major initiatives, including NYP Infosec Open House 2026, EAE Workshop 2025, and the NYP Infosec Metasploit Workshop
- Led NYP Infosec's representation at GovWare x Singapore International Cyber Week (SICW) 2025

Subcommittee

- Designed and developed challenges for NYP June and December CTF events
- Overall-In-Charge for the NYP Web Hacking Workshop, creating instructional materials and hands-on practical labs to teach web security fundamentals
- Student Lecturer for NYP YCEP, introducing secondary school students to Linux and teaching practical skills such as basic commands and file editing

Anderson Secondary School Robotics Club

Jan 2020 - Dec 2023

Coding Head

- Organised and taught a python programme to teach students basics of programming during sabbatical break
- Taught and trained members in competitive programming with C/C++ to prepare for the National Olympiad in Informatics and other coding competitions

AWARDS & CERTIFICATIONS

Awards

- WorldSkills Singapore 2025 Gold Medal (Cloud Computing)
- CSIT-Nanyang Scholarship
- AISP SVRP Gold Award 2025, Silver Award 2024
- Lockheed Martin Codequest Advanced Category 2024 1 Place
- National Olympiad in Informatics Silver Medal (2022 & 2023)
- Lockheed Martin Cyberquest 2025 3 Place
- Robocup Cospace Rescue U19 1 Place (Singapore Open 2022 & 2023, Asia Pacific 2022)
- Singapore Mathematics Project Festival (Senior Section) 2023 Gold Award
- Singapore Mathematical Olympiad (Senior Section) 2023 Bronze Medal
- Singapore Junior Physics Olympiad 2023 Silver Medal

Certifications

- AWS Certified SysOps Administrator – Associate (Mar 2025 - Mar 2028)
- AWS Certified Cloud Practitioner (Oct 2024 - Oct 2027)
- ISC2 Certified in Cybersecurity (CC) (Feb 2024 - Feb 2027)
- [PCEP-30-02] PCEP™ – Certified Entry-Level Python Programmer (Issued Apr 2024)

VOLUNTEERING

Lag N Crash 5.0

Apr 2025 - Jul 2025

Challenge Creator & CTF Platform Designer

- Developed a hard-difficulty web challenge, testing skills in advanced web security concepts and techniques
- Designed and developed the CTFd platform UI with a “dystopian” theme

Lag N Crash 6.0

Sep 2025 - Present

Infra Team

- Member of the infrastructure team, helping out in setting up CTF platform and designing the architecture

Singapore Informatics League (SIL) Developer

Apr 2025 - Present

- Built with Typescript and React with Firebase
- Developed backend systems, APIs, and admin scripts to ensure seamless operation of the SIL competition.
- Managed email infrastructure, including custom domain configuration (SPF, DKIM, DMARC) and bulk email sending using AWS SES

Advanced YCEP (AYCEP) Teacher Assistant

Nov 2024 - Dec 2024

- Assisted participants with questions and challenges they had
- Supported instructors in facilitating learning and engagement for participants

Ingenious Applications (IA)

Jul 2023 - Present

Director of Operations

- Oversaw events and operations as part of the management team.

Lead Developer

- Led the development team, establishing standard operating procedures (SOPs) to streamline development workflows.
- Implemented CI/CD pipelines to accelerate code reviews and improve deployment efficiency.

SKILLS

Languages: Proficient in English

Digital Skills: Python, JavaScript, Typescript, C/C++, Linux, React, AWS, Docker, Git, C# / .NET, PostgreSQL, Redis, Kotlin Android Development, Prometheus, Grafana

HOBBIES & INTERESTS

Competitive Programming, Capture-The-Flags, Hackathons, Gaming