

Tan Kai Xun Dave

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EDUCATION

National University of Singapore

2026 –

Bachelor of Computing in Computer Science (Incoming 2026)

- Recipient of the NUS Merit Scholarship; NUS College (Honours Programme)

NUS High School of Mathematics and Science

Jan 2018 – Dec 2023

NUS High School Diploma with High Distinction (CAP: 4.9/5.0)

- Majored in Chemistry (Honours), Mathematics (Honours), Computer Science, and Physics
- ExCo: Mathematics Interest Group (IG); Member: Chemistry, CS, and Humanitarian Education IGs
- Achieved **Gold** — Singapore Chemistry Olympiad and **Silver** — Singapore Mathematical Olympiad

National University of Singapore

Aug 2022 – May 2023

Non-Graduating Programme (NUS High Chemistry Honours)

- CM1102 Chemistry — The Central Science (A-), CM2133 Introduction to Physical Chemistry (A)

EXPERIENCE

Cyber Operator, Cyber Threat Intelligence Department

Apr 2024 – Present

The Digital and Intelligence Service (DIS)

Singapore

- Monitored and assessed threats to Singapore's cyberspace; produced daily reports for dissemination.
- Uncovered and analysed tactics, techniques, and procedures (TTPs); indicators of compromise (IOCs).
- Cisco CCST Cybersecurity (Score: 929/1000).
- Awarded **Best in Knowledge** and **Top Trainee** – 18/24 Cyber Defence Operator Course (CDOC).

Project Intern, Data and Analytics Enablement, Digital Innovation

Oct 2023 – Mar 2024

Temasek Holdings

Singapore

- Spearheaded development of process discovery framework and web frontend on production databases.
- Optimised Power Automate flows, cutting runtime/memory by 70%
- Streamlined account migration process to service accounts, improving system reliability and uptime
- Prepared technical documentation and product showcases to key stakeholders.

Research Attachment, C4NGP

Jun 2021 – Dec 2021

National University of Singapore

Singapore

- Project: Constrained Robust Optimisation of Berth Allocation and Quay Crane Scheduling.
- Modelled the problem using linear equations and proposed a robust solution to mentors.

PROJECTS

Capture-The-Flag (CTF) Challenges | *Cybersecurity, Cryptography, Forensics*

2022 – Present

- Achieved **1st** – BlahajCTF 2023, **2nd** – Lag n Crash 2024, **3rd** – Cyberthon 2023
- Solved reverse engineering, cryptographic, and web exploitation challenges using Python, SageMath, and Ghidra.
- Authored detailed challenge write-ups, earning recognition for GreyCTF 2025, Dice Quals 2024

FiggleSpeak | *PyTorch, Audio Processing, ffmpeg, Vue.js, Docker*

2024

- AI app providing real-time pronunciation feedback from live audio.
- Integrated AI inference pipeline into backend APIs and docker-containerised infrastructure.

Tour Booking Website | *Vue.js, Firebase*

2022 – 2023

- Full-stack web application for NUS High Open House, managing over 3,000 concurrent visitors.
- Implemented real-time booking and authentication using Firebase services.
- Deployed and maintained platform in coordination with organisers; conducted training for volunteers.

TECHNICAL SKILLS

Languages: Python, Java, SQL, JavaScript

Domains: Data Analysis, Machine Learning, Web Development, Cybersecurity, Cryptography

Tools: Power Automate, Firebase, SageMath, NumPy, Pandas, React, Vue.js, SQL Databases, OR-Tools, Google Cloud

Soft Skills: Technical Communication, Optimisation, Data Modelling, Visualisation