

# Tan Kai Xun Dave

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## EDUCATION

<b>National University of Singapore</b>	2026 –
<i>Bachelor of Computing in Computer Science (Incoming 2026)</i>	
– Recipient of the NUS Merit Scholarship; NUS College (Honours Programme)	
<b>NUS High School of Mathematics and Science</b>	Jan 2018 – Dec 2023
<i>NUS High School Diploma with High Distinction (CAP: 4.9/5.0)</i>	
– Majored in Chemistry (Honours), Mathematics (Honours), Computer Science, and Physics	
– ExCo: Mathematics Interest Group (IG); Member: Chemistry, CS, and Humanitarian Education IGs	
– Achieved <b>Gold</b> — Singapore Chemistry Olympiad and <b>Silver</b> — Singapore Mathematical Olympiad	
<b>National University of Singapore</b>	Aug 2022 – May 2023
<i>Non-Graduating Programme (NUS High Chemistry Honours)</i>	
– CM1102 Chemistry — The Central Science (A-), CM2133 Introduction to Physical Chemistry (A)	

## EXPERIENCE

<b>Cyber Operator, Cyber Threat Intelligence Department</b>	Apr 2024 – Present
<i>The Digital and Intelligence Service (DIS)</i>	<i>Singapore</i>
– 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 <b>Best in Knowledge</b> and <b>Top Trainee</b> – 18/24 Cyber Defence Operator Course (CDOC).	
<b>Project Intern, Data and Analytics Enablement, Digital Innovation</b>	Oct 2023 – Mar 2024
<i>Temasek Holdings</i>	<i>Singapore</i>
– 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.	
<b>Research Attachment, C4NGP</b>	Jun 2021 – Dec 2021
<i>National University of Singapore</i>	<i>Singapore</i>
– 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

<b>Capture-The-Flag (CTF) Challenges</b>   <i>Cybersecurity, Cryptography, Forensics</i>	2022 – Present
– Achieved <b>1st</b> – BlahajCTF 2023, <b>2nd</b> – Lag n Crash 2024, <b>3rd</b> – 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	
<b>FiggleSpeak</b>   <i>PyTorch, Audio Processing, ffmpeg, Vue.js, Docker</i>	2024
– AI app providing real-time pronunciation feedback from live audio.	
– Integrated AI inference pipeline into backend APIs and docker-containerised infrastructure.	
<b>Tour Booking Website</b>   <i>Vue.js, Firebase</i>	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