Cao Xizhen

Q: What's bigger than a tuna?
A: a threena.

EDUCATION

2025-2026

Hwa Chong Institution
Infocomm & Robotics
Society (Cybersecurity)
Art Elective Programme

2021-2024

Nanyang Girls' High School
Infocomm Club
Art Elective Programme

SKILLS

Computer Science
- Python, C++
- Javascript/HTML/CSS
- Cryptography
- Binary Exploitation
- Algorithm design
- Quantum computing
- Game development

Software/tools
- MS office suite
- Adobe CC
- Figma
- Blender
- Ghidra

CONTACTS

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burner972021
https://www.linkedin.com/
in/caoxizhen/

ABOUT ME

JC Year 1 student. Team Player. Deeply passionate about Mathematical Cryptography, Science Research, and Computer Science. Dabbles in Graphic Design and Visual Learning.

EXPERIENCES

RESEARCH PROJECT INTERN | On-site | A*STAR IMRE
Oct-Dec 2025
Project title: Implementation of quantum logic gates with solid-state qubits interfaced with an optical metasurface
Mentored by: Emmanuel Lassalle
- Worked on numerical simulations for iSWAP gate in a superconducting transmon system
- Report: in progress

PRESIDENT | On-site | Project Small Bytes, HCI
2025-2026
Founded a community service learning project. We teach Primary 5 level students basic Python programming and Pygame development.
Partner: Choa Chu Kang Primary School
- Curriculum design, teaching, administration

STUDENT RESEARCHER | Part-time | NUS, CQT
2025-2026
Project title: Finite-Key Security Proofs and Key Rate Analysis of Entanglement-Based Quantum Key Distribution with Alternate Measurement Bases
Mentored by: Kwek Leong Chuan
- Numerical simulations for Ekert-91 protocol under different conditions for computation of key rates and security thresholds (Bell Parameters)

OTHERS

SieberrsecCTF 2025
Core Organising team
Served as Publicity Head, Ceremonies IC, Challenge setter, etc.

Sentinel Programme
2022-2023
Awarded Certificate of Achievement

FUTURE RE:WIRED
Student Coordinator
Facilitated event and operations at an event organised by Wavesparks, as part of SWITCH 2025.

Art Elective Programme
2021-2026