Tin Chak Xu

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Education

New York University — New York, NY
Bachelor of Science in Computer Science — *Expected May 2030*

- **In Progress:** Introduction to Programming and Problem Solving; Calculus I; General Chemistry for Engineers
- **Planned (Spring 2027):** Data Structures and Algorithms; Calculus II; Introduction to Engineering and Design
- **Activities:** Tech@NYU, Chess Team, Robotics Club, Stern Finance Society, Philosophy Club

The American School of Barcelona — Barcelona, Spain
International Baccalaureate Diploma — *2026*

Experience

AI Security Researcher — Oct. 2026 – Present
OSIRIS Lab — *New York, NY*

- Research defenses against indirect prompt injection in AI-native applications, focusing on local AI agents processing documents, logs, and tool outputs
- Explore when agents should run additional security checks to balance protection, response latency, computational cost, and energy use

Assistant Chess Instructor — Sep. 2022 – June 2024
The American School of Barcelona — *Barcelona, Spain*

- Helped teach chess fundamentals to **30+ beginner students**; developed a Python trainer with **80 original tactical puzzles** for classroom practice

Projects

HeatAhead NYC | *Python, IBM LinuxONE* | Code | Demo — Oct. 2026 – Present

- Formed and led a **six-person IBM Z Datathon team**, recruiting members including graduate students
- Built an interactive map of predicted heating-failure risk across NYC boroughs to help inspectors prioritize buildings during extreme weather
- Developed the machine learning pipeline, integrating historical housing records with live weather data
- Set up a LinuxONE test environment; benchmarked batch inference at **480,000+ building records/sec**

Blackjack Card-Counting Simulator | *Python, Google Colab, Google Sheets* — Oct. 2025 – Dec. 2025

- Built a six-deck blackjack simulator implementing basic strategy and Hi-Lo card counting; recorded **180,000 rounds across nine true-count levels** with approximately one deck remaining
- Debugged dealer rules, count normalization, and sampling logic; analyzed win, push, and loss rates and fitted outcome trends using linear regression

Leadership

Founder — Sep. 2024 – May 2026
International Schools Chess Association — *Barcelona, Spain*

- Founded an online chess league connecting **100+ players across 23 schools**; organized tournaments and managed weekly pairings, match schedules, and league operations

Technical Skills

Programming & Web: Python, HTML, CSS
Tools & Platforms: Linux, IBM LinuxONE, Microsoft Excel
Technical Areas: AI Security, Computer Networking, Data Visualization, Statistical Analysis
Spoken Languages: English, Spanish, Mandarin Chinese