Haokun (Daniel) Xu

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Education

Vanderbilt University — Nashville, TN
Bachelor of Engineering, Electrical and Computer Engineering — *Expected May 2028*
Second Major in Mathematics, Minor in Digital Fabrication — **GPA**: 4.00

- Relevant coursework: RF and Microwave Design, Electronics, Digital Systems, FPGA Design, Microelectronic Systems, Data Structures & Algorithms, Technical Communications, Rapid Prototyping

Stuyvesant High School — New York, NY
Stuyvesant Endorsed, Advanced Regents Diploma — *June 2024*
Honors in Computer Science, Honors in Robotics Leadership — **GPA**: 94.08

Technical Skills

Programming: Java, C, C++, Python, SystemVerilog, Assembly, Git, Unix, OpenCV
Engineering: KiCad, LTspice, Quartus, Bench Test Equipment (Power Supply, Oscilloscope, Digital Logic Analyzer, Function Generator), Soldering, 3D CAD, 3D Printing, CNC Milling

Experience

Digital Fabrication Lab — Nashville, TN
Lab Technician & Teaching Assistant — *August 2025 - Present*

- Maintain and upgrade a digital fabrication lab with ~90 daily users, upholding safety procedures
- Train and mentor students on additive and subtractive manufacturing, soldering, and microcontrollers
- Build and maintain physical infrastructure to locally host cloud-based 3D printing service

Vanderbilt University School of Engineering — Nashville, TN
Undergraduate Lab Assistant for Circuits I — *August 2025 - December 2025*

- Identified and fixed broken lab equipment (oscilloscopes, multimeters, and frequency generators)
- Ensured student circuit quality through rigorous testing and debugging to meet lab manual specifications
- Guided student learning using LTspice analog circuit simulation to increase prototyping speed

NYC FIRST — New York, NY
Program Coordinator — *June 2025 - August 2025*

- Led and coordinated a team of 17 interns to design, fabricate, and deploy a custom ID card system to speed up member check-in and management
- Guided schematic and PCB design in EasyEDA featuring voltage regulation and NFC hat
- Designed and fabricated four custom trophies with modular winner-reveal system

Intern — *June 2024 - August 2024*

- Created and presented professional development curriculum on robotics for high school teachers
- Hosted workshops on building effective PIDF controllers and autonomous control using Roadrunner in Java

Stuyvesant Robotics — New York, NY
Team Captain — *June 2022 - June 2024*

- Led mechanical and electrical system design of 3 FTC robots using Onshape and Fusion 360
- Developed and optimized a command-based subsystem architecture to achieve a 10x faster control loop
- Created an OpenCV pipeline that recognized position of randomly placed gamepiece with 98% success rate.
- Fabricated mechanical components and electronics packaging using CNC routers, mills, and 3D printers
- Coordinated regular outreach events (presentations, live demos) at local schools and community centers to promote STEM education

Projects

Graphics engine: built with C and Python, multiple reflection modes, compiler for motion description lang.
UNIX Shell: built with C, implements filesystem commands, signal handling, piping/redirecting

Languages spoken: English & Cantonese (native), Mandarin & Japanese (limited working proficiency)