Simon Yu

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Education

Northeastern University, Boston, MA — May 2026
Bachelor of Computer Engineering and Computer Science, GPA 3.47
Coursework: Fundamentals of Digital Design and Computer Organization, Circuits and Signals, Computer Systems, Embedded Design, Fundamentals of Networks, Database Design, Object Oriented Design, Fundamentals of Linear Systems, Foundations of Cybersecurity
Activities: IEEE, NU Toys, NEU CTF Club

New Exploration into Science, Technology, and Math, New York, NY — September 2017 - June 2021
HS Diploma, GPA 97.96
Activities: Asian Culture Club, National Honors Society, Key Club, Chess Club, Coding Club

Skills

Programming: C, C++, Python, MATLAB, Java, SystemVerilog
Software: AutoCAD, Arduino, SOLIDWORKS, Microsoft Office (Excel, PowerPoint, Word), SQL, IntelliJ, LT Spice, Quartus Prime, Xilinx Vivado
Languages: Fluent in Mandarin and Cantonese

Engineering Projects

Electrocardiogram Signals (ECG) — December 2023
- Acquired ECG signals through instrumental amplifier (AD627) and electrodes.
- Designed high pass and low pass filters to remove DC components and avoid aliasing.
- Acquired digital processing in MATLAB through A/D conversion to further filter interference.

Basic Shell in Linux — November 2023
- Developed a tokenizer in C to process command line and split into tokens.
- Implemented basic shell functionality through single user-specified and built-in commands.

RISC-V Single Cycle Processor on FPGA — November 2023
- Constructed a 16-bit adder, Arithmetic Logical Unit, and register files in SystemVerilog.
- Assembled Data Memory and Instruction Decoder to complete the processor datapath.
- Applied branching logic and Instruction Memory to test processor on TUL PYNQ Z2 board.

Robotic Arm on DE1-SoC board — October 2023
- Designed a digital circuit through Pulse Width Modulation signals on Quartus Prime.
- Constructed schematics to control the arm through push buttons and switches on the DE1-SoC board.
- Modified designs to prevent roll over and manually control all Radio Control servos with logical gates.

Work Experience

Brooklyn Chinese Association, New York, NY — July 2022 - August 2022
Assistant Counselor
- Monitored 23 first grade kids and guided them through academic lessons.
- Developed strong connections with counselors and supervisors.

Sunlight Laundromat, New York, NY — June – September 2018, 2021
Worker
- Washed, dried, and organized clothes that were being delivered and dropped off.
- Translated conversations between customers and workers answering outstanding questions.
- Assisted 50+ daily customers and delivery orders including checkouts and record loggings.