

# Simon Yu

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<https://yusim125.github.io/>

## Education

### **Northeastern University**, Boston, MA

May 2025

Bachelor of Computer Engineering and Computer Science, GPA 3.42

Coursework: Fundamentals of Digital Design and Computer Organization, Circuits and Signals, Computer Systems, Embedded Design, Algorithms & Data, Database Design, Object Oriented Design, Computer Architecture & Organization, Fundamentals of Software Engineering

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, System Verilog, JavaScript, Typescript, Shell Scripting

Software: AutoCAD, Arduino, SOLIDWORKS, Microsoft Office (Excel, PowerPoint, Word), SQL, Boost C++, LT Spice, Quartus Prime, Xilinx Vivado, MongoDB, Jest, Visual Studio Code, NodeJS, React

Languages: Fluent in Mandarin and Cantonese

## Work Experience

### **Fresenius Medical Care**, Lawerence, MA

July 2024 – December 2024

*Software Engineer*

- Tested the reliability and safety of a peritoneal dialysis cycler through manual procedural testing.
- Streamlined tools migration by updating Visual Studio and Boost libraries to align with global compliance.
- Debugged and optimized connectivity scripts for running Docker on WSL2, ensuring seamless operation.

### **Brooklyn Chinese Association**, New York, NY

June 2022 - August 2022

*Assistant Counselor*

- Monitored 23 first grade kids and guided them through academic lessons.
- Developed strong connections with counselors and supervisors.

## Engineering Projects

### **Imitation Stack Overflow**

January 2025

• Proposed and designed features to Stack Overflow with TypeScript and React for user interface.

• Facilitated integration of implementation and testing frameworks with automated tests.

• Collaborated with designated team through software development process with proposal, design, and deployment.

### **Laundromat Database Design Organizer**

April 2024

• Designed a mySQL database involving triggers, functions, procedures for CRUD operations.

• Integrated connection to Python script to enable efficient data operations for daily scenario.

• Concurrently updating database while tracking daily profit gains and losses.

### **Electrocardiogram Signals (ECG)**

• Acquired ECG signals through instrumental amplifier (AD627) and electrodes.

December 2023

• 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.

### **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 data path.

• Applied branching logic and Instruction Memory to test processor on TUL PYNQ Z2 board.