

Simon Yu

yu.sim@northeastern.edu, 929-228-8261
738 E 5th Street, Apt3A, New York, NY, 10009
<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, Lawrence, MA July 2024 – December 2024

Software Engineer

- Tested the reliability and safety of a peritoneal dialysis cyler 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.