Simon Yu

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Education

Carnegie Mellon University　　　　　　　　　　　　　　　　　　　　　　　May 2027
Bachelor of Science in Information Systems, Intended Minor in Computer Science (GPA: 3.31)　　*Pittsburgh, PA*
- **Relevant Coursework:** Principles of Imperative Computation (Data Structures and Algorithms), Concepts of Mathematics (Discrete Math), Linear Algebra, Intro to Computer Systems (C)
- **Activities:** Asian Students Association, Tartan Scholars

Brooklyn Technical High School　　　　　　　　　　　　　　　　　　　　　　June 2023
High School Diploma　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Brooklyn, NY*
- **Relevant Coursework:** AP Computer Science A (Java), AP Calculus BC, AP Statistics, Digital Electronics, IT Infrastructure (Linux, MySQL)

Experience

ScottyLabs　　　　　　　　　　　　　　　　　　　　　　　August 2023 – Present
Tech Committee　　　　　　　　　　　　　　　　　　　　　　　　　　　*Pittsburgh, PA*
- Participated and worked with others in the tech committee to aid in the development of the TartanHacks registration system, Pittsburgh's premier hackathon.
- Contributed to the Labrador team, working on the CMU Eats API to help students to track information regarding campus dining.

Phedamenon　　　　　　　　　　　　　　　　　　　　　May 2022 – September 2022
Intern　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Remote*
- Worked on the GiveToHaiti project, improving the landing page and implementing new front and back-end features such as the donation feature.
- Leveraged proficiency in HTML, CSS, and JavaScript to develop custom graphics, animations, and interactive elements, enhancing the site's aesthetic appeal and functionality.

GT School　　　　　　　　　　　　　　　　　　　　November 2022 – March 2023
Content Expert　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Remote*
- Collaborated with other experts to formulate and quality-check AP subject mastery test programs for clients.
- Assisted and tutored students with difficult AP subject content, implementing unique strategies to boost learning.

A+ Academy　　　　　　　　　　　　　　　　　　　　　　July 2022 – May 2023
Clerical and Teaching Coordinator　　　　　　　　　　　　　　　　　　　*Brooklyn, NY*
- Tutored K-12 students individually and in groups regarding relevant school material including SAT and SHSAT prep, AP/Regents coursework, State-wide testing.
- Developed and graded assignments and tests for 100s of students. Communicated with clients to formulate optimal study plans for their children.

Projects

C0 Virtual Machine | *C*
- Implemented a virtual machine inspired by the JVM and LLVM for the C0 language, a safer subset of C. Processed instructions as bytecode with features such as memory management, control flow, and calling assertions and errors.
- Conducted extensive testing and debugging to ensure the reliability and stability of the C0VM, including unit tests and integration testing. Carefully ensured safety through robust memory management.

Huffman Compressor | *C*
- Developed a lossless compression implementation of the Huffman coding algorithm in C which constructs optimal trees based on symbol frequencies and uses them to encode and decode input data.
- Designed and implemented key data structures including Huffman trees and auxiliary tables for mapping symbols to codes allowing for a compression ratio of roughly 70%.

Technical Skills

Technologies: C, Java, HTML, CSS, JavaScript
Languages: English (Native), Cantonese (Native), Mandarin (Fluent)