

Edward Kwak

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EDUCATION

Georgia Institute of Technology

Atlanta, Georgia

B.S. Computer Engineering | GPA: 3.4/4.0

Expected Graduation: December 2025

Concentrations: Distributed Systems & Software Design, Devices

Relevant Coursework: Data Structures & Algorithms, Software Engineering, Hardware/Software Systems

EXPERIENCE

Medtronic

June 2024 – August 2024

Software Engineer Intern

Minneapolis, Minnesota

- Designed and implemented a domain-specific language translation framework using XML, C#, and JavaScript to automate verification testing (VT) for iOS applications that interface with cardiac implantable devices. Decreased the number of external dependencies in the VT process by 50%.
- Implemented static identifiers for UI elements in an iOS application to enhance reusability of testing code and ensure reliable verification of dynamically changing UI elements during runtime.

Northrop Grumman

June 2023 – August 2023

Electrical Engineer Intern

Baltimore, Maryland

- Developed a C program for communication between controller devices via serial bitstreams and programmed an FPGA in VHDL to drive the controllers and perform verification testing.
- Designed, modified, and tested RF systems using network analyzers, oscilloscopes, and function generators. Performed burn-in tests on integrated microwave assemblies.

Georgia State University

May 2022 – August 2022

Mathematics Research Intern

Atlanta, Georgia

- Developed models for a binary choice game using Python and Wolfram Mathematica to analyze winning and losing patterns.
- Presented research findings at a university-wide symposium, winning the award for best group presentation.

PROJECTS

Game of Life

- Created a version of John Conway's Game of Life using C++. Utilized multiprocessing with OpenMP to concurrently process large numbers of computations and used SFML to render graphics.

Audio Monitor Peripheral

- Developed a peripheral using VHDL that interfaces with a computer's audio-to-digital converter for real-time audio processing and filtering for sudden spikes in volume.

SKILLS

Software: C, C++, Python, Java, Assembly (MIPS, RISC-V), JavaScript, C#, VHDL, Verilog

Other: Git, OpenMP, OpenGL, SFML, AWS, Visual Studio, Quartus Prime, Vivado