EDWARD KWAK

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EDUCATION

Georgia Institute of Technology Expected: December 2025
B.S. Computer Engineering GPA : 3.74
Concentrations: Distributed Systems & Software Design, Devices

EXPERIENCE

Medtronic
Software Engineer Intern June 2024 – August 2024

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

Northrop Grumman
Electrical Engineer Intern June 2023 – August 2023

- Developed a C program that facilitates communication between controller devices via serial bitstreams. Programmed an FPGA using VHDL to drive the controller modules 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 and performed analysis on output data using MATLAB.

Georgia State University
Mathematics Research Intern May 2022 – August 2022

- 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 and won 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 in order to concurrently process the large number of computations required and used SFML to render graphics.

3-D Chess

- Developed a 3-D chess game using C++. Implemented Komodo's Dragon chess engine to automate the opponent's movements and used OpenGL to render graphics.

mBED Top-Down Shooter Game

- Developed a top-down shooter game in C++ using an ARM microcontroller (LPC1768) and a breadboard gaming circuit featuring an LPC 1768 microcontroller, joystick, speaker, and uLCD board for display.

SKILLS

Languages: C++, C, Python, Java, JavaScript, ARM, C#
Libraries/Frameworks: OpenGL, CUDA, SFML, OpenMP, MPI, JUnit
Hardware: VHDL, Verilog, Quartus Prime, KiCAD
Other: Git, Visual Studio, Keil Studio, AWS, Vim, Confluence, Agile Methods