

Daniel Flynn

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Education

Northeastern University, Boston, MA

December 2025

Bachelor of Science in Computer Engineering and Computer Science

GPA: 3.59 (Cum Laude)

Relevant Coursework: Computer Architecture, Natural Language Processing, Software Engineering, Digital Design, EECE Capstone, Linear Systems, Artificial Intelligence, Random Phenomena in Electrical Engineering, Computer Systems, Object-Oriented Design, Algorithms and Data, Logic and Computation, Circuits and Signals, Fundamentals of Networks, Embedded Design

Skills

Languages: Python, C/C++, JavaScript/TypeScript, Java, Assembly (x86/ARM/MIPS), Verilog, SQL, LaTeX

Web Development: Node, React, Vite, HTML/CSS, MongoDB, RESTful APIs, Sockets, OpenAPI, Jest, Cypress

DevOps and Build Tools: Git, GitHub Actions, CI/CD, Docker, Kubernetes, Netlify, YAML, CMake, Makefile, SystemD, Ansible, SSH

Embedded Systems and Hardware: Linux, STM32, ESP32, Raspberry Pi, Xilinx FPGAs, UART, SPI, JTAG, DFU

Machine Learning: NumPy, PyTorch, TensorFlow, Hugging Face, Transformers, Deep Learning, OpenCV

Experience

NK Labs

Embedded Software Engineering Co-op

January 2025 – June 2025

- Developed front-end, back-end, and firmware of a PCR machine using an STM32 microcontroller.
- Managed Linux daemons on SoC for synchronized front-end and back-end execution; used UART for debugging and U-Boot DFU for firmware loading.
- Implemented experiment timers, temperature ramping compensation, web connectivity over sockets, and UI functionality for experiment runs.

Schneider Electric

Software Engineering Co-op

January 2024 – June 2024

- Developed and deployed edge computing middleware leveraging Docker and Kubernetes, improving system scalability and deployment efficiency across distributed industrial devices.
- Implemented and configured OPC UA-based communication for industrial automation, integrating devices and ensuring reliable data exchange between systems.
- Contributed to DevOps processes and network management, including IP address configuration, container orchestration, and WebAssembly integration.

Depuy Synthes Mitek Sports Medicine (Johnson and Johnson)

Software Engineering Co-op

January 2023 – June 2023

- Developed software and firmware for the FMS VUE saline and fluid management pump, utilizing a monochrome dot-matrix LCD for the front-end, and IBM Rhapsody for UML design, code organization, simulation, and validation on the back-end.
 - Used Arm Keil compiler and JTAG debugger to program flash memory, debug firmware code, and create release versions for FMS VUE.
 - Implemented auto calibration mode for FMS VUE pressure compensation based on elevation with laboratory testing.
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Projects

ARM LEGv8 CPU Implementation with Schematic Compiler

November 2025 – December 2025

- Verilog implementation and testbench for a 5-stage pipelined CPU with LEGv8 instruction set, 64-bit registers, ALU, register file, instruction decoder, and control signals.
- Python schematic compiler that parses verilog code to generate a directed graph of the components using DFS.

Interactive System for Electronic Creativity

September 2024 – November 2024

- Interactive drawing system using an ESP32-based remote over BLE and C/OpenGL graphics software.
- Remote tracking via Raspberry Pi camera, laser pointer, and Python OpenCV; communication over MQTT.

AI Poker Solver and Simulator

June 2024 – August 2024

- Python poker simulator generating betting strategies using genetic algorithms.
- Used NumPy to manage probability matrices based on hand strength, pot size, and balance.