Ian Guiwo

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Education

Drexel University — BS in Electrical/Computer Engineering — Expected: June 2027
Minors in Computer Science and Mathematics, Pennoni Honors College — *GPA: 3.94/4.0*

University of Leeds — September 2025 - January 2025
School of Electronics and Electrical Engineering (Exchange Program) — *Equivalent GPA: 4.0/4.0*

Skills

Languages C, C++, C#, Python, Java, Verilog, VBA, HTML
Tools Bash, Vim, GitLab, Qt Creator, IAR Embedded Workbench, Jira, AutoCAD, MATLAB
Hardware JTAG, Soldering, Oscilloscope, Multimeter

Experience

EWA Government Systems — March 2025 - September 2025
Software Engineer Co-op (Security Clearance: Secret) — *Mount Laurel, NJ*

- Designed and implemented a GUI application with C++/CMake to interface with real time radar systems, processing information through pointer-based data manipulation and bit-level reconstruction
- Optimized a radar simulation program to transmit threat data via UDP, implementing multithreading and custom binary serialization to reduce latency and triple supported message types
- Collaborated within a multidisciplinary team to meet industry-specific requirements and documented updates in Jira/GitLab to ensure the application met performance standards

Raptor Defense Company — July 2024 - May 2025
Electrical Engineer — *Philadelphia, PA*

- Led the interior electrical design and power distribution architecture for LR-2 Trojan V2, a robotics rover built for autonomous landmine detection and removal
- Built and maintained peripheral devices — including metal detector and video transmitter systems — while performing appropriate updates to embedded devices such as Jetson Nano and Arduino Mega
- Extended battery life by 40% by calculating power budget and regulating peripheral power allocation to prevent voltage drops

AMETEK PDS — April 2024 - October 2024
Software Engineering Co-op — *Harleysville, PA*

- Repaired critical functionalities for aerospace power distribution systems by developing embedded C code in alignment with DO-178C (Level A) FAA Regulatory Standards, successfully pushing all updates to production
- Troubleshot functionality issues on STM32F303/STM32F765 microcontrollers using oscilloscopes, multimeters, and JTAG to diagnose and resolve anomalies on 4 separate projects
- Wrote 3 full-stack applications in C# and Python to assist test engineers in executing acceptance test procedures

Vertically Integrated Projects (VIP) Research Program — December 2022 - May 2023
Research Assistant (Project: The Future of Power and Energy) — *Philadelphia, PA*

- Constructed 5 step-up transformers to provide testable voltages on circuit models designed to evaluate the impact of electromagnetic fields on Mavic 3T surveillance drones
- Analyzed flight data and measured electrical properties of drone components post-flight to further model development and minimize interference on internal magnetometers and RF modules

Notable Projects

I²C Music Box | *C++, I²C, SparkFun Qwiic Buzzer Library* — September 2025 - Present

- Configured I²C communication pins and daisy-chained buzzers on a SparkFun RedBoard Plus to emulate a music box with programmable tones and customizable polyphony

Computer Vision ASL Translator | *Python, OpenCV, Tensorflow* — April 2023 - June 2023

- Won 1st place at Drexel's First-Year Engineering Design Competition by utilizing Google's Teachable Machine algorithm to design a software that reads, identifies, and displays American Sign Language to audio and on-screen text