Kemi Oni

647-532-1165 oluwakemioni2004@gmail.com linkedin.Kemi Oni github.com.Kemi Oni

Education

University of Waterloo **Waterloo, ON**
BASc in Electrical Engineering, Honors. GPA: 3.7 *Graduating May 2026*

NSBE Vice President

Skills

Languages: C, C++, Python, Verilog **Developer Tools:** Git, MongoDB, VS Code, Visual Studio, Linux, Yocto, Jira
Hardware : Altium Designer, KiCAD, Soldering, Oscilloscope, DC E-load, DMM, function and signal generator

Experience

Systems Firmware and Diagnostics Intern, Apple, San Diego CA **May 2025 - Aug 2025**

- Re-designed a feature, reducing power consumption by 99.8% - enabling first deployment on battery-constrained units.
- Working with **C/C++** to develop a module using an event driven architecture to run on uncontrolled customer devices.

Undergraduate Research Assistant, University of Waterloo, Waterloo, ON **May 2024 – Present**

Supervisor: Prof. Andrew Boutros — Hardware Acceleration Research (Fall 2025, Winter 2026)

- Joining Prof. Andrew Boutros' research team in Fall 2025 to develop domain-specific hardware accelerators and reconfigurable computing architectures.

Supervisor: Prof. Yansh Pant — Autonomous Vehicle Control (Summer 2024)

- Deployed scripts in **C++** to launch and run ROS2 nodes for DBW communication over a CAN bus.
- Enabled real-time processing of CAN bus data for autonomous control — steering and braking — of a Jeep platform.

IC Design Intern, NXP Semiconductors, Ottawa ON **Jan 2025 - Apr 2025**

- Owned and rewrote the scheduler module of the Host Transit Agent Verification IP to enhance efficiency in regression runs and create opportunities for code reusability.
- Optimized task scheduling to reduce false failures, concerning the **HTA tx** scheduler, achieving a 0% false fail rate, compared to 22% before implementation, cutting regression time.
- Verifying a scheduler IP block with the **UVM**, focusing on functional coverage and constrained-random testing.

Embedded Developer Intern, Ecobee, Toronto ON **Jan 2024 - Apr 2024**

- Engineered **low-level driver** support and executed **OS** upgrades to bolster thermostat functionality.
- Led the development of device calibration firmware crucial for successful integration of new devices.
- Created a comprehensive test bundle for precise measurements, using **C++**, which decreased testing run time by 4.5x.
- Conducted hardware testing, employing digital analyzers, scope, and DMM for thorough validation.

Firmware Developer Intern, CircuitIQ, Kitchener ON **May 2023 - Aug 2023**

- Developed firmware for wireless signal analysis device, enabling real-time transmission line current monitoring.
- Improved system reliability by applying Fourier Analysis to detect input signal anomalies

Embedded Software Intern, Wind River Software Company, Ottawa ON **Sep 2022 - Dec 2022**

- Developed **WR Linux** board support packages and linux layers for firmware run-time environment management.
- Implemented Linux layers on nxp-32g architecture with custom applications using **YOCTO** recipes.