

Ahnaf Shahriar

[Email](#) | [LinkedIn](#) | [Github](#)

EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Applied Science in Computer Engineering

Sept. 2021 – Apr. 2026

- Recipient of Richard & Elizabeth Madter Entrance Scholarship and President's Scholarship of Distinction
- **Relevant Courses:** Computer Architecture, Computer Networks, Systems Programming and Concurrency, Embedded Microprocessing Systems, Analog Control Systems

EXPERIENCE

IC Design and Verification Intern

Jan. 2024 – May 2024

NXP Semiconductors Canada

Kanata, ON

- **IP Design:** Designed multiple IP blocks for NXP's flagship dataplane processing chips.
- **Timing Analysis:** Spearheaded critical path improvements for IP to meet 600Mhz from 400Mhz.
- **Functional Testing:** Designed brand new End-to-End functional tests in simulating traffic for IP.

IC Verification Intern

May 2023 – Aug. 2023

NXP Semiconductors Canada

Kanata, ON

- **UVM SystemVerilog:** Designed Multi-threaded IP specific *UVM classes* for testing RTL Design.
- **Unit Test Planning:** Created Simulation scenarios and edge cases for testing IP block features.
- **Debugging:** Debugging regression testing and development in *Red Hat Linux*.

Embedded Software Engineering Intern

Sept. 2022 – Dec. 2022

Synapse Product Development

Seattle, WA

- **Prototyping:** Leveraged Zephyr RTOS to create a proof of concept on *NRF52 BLE* device.
- **Python APIs:** Developed company specific lab automation software for equipment from *Agilent, Keysight, NI, Tektronik*.
- **Automation:** Streamlined testing and in house procedures using *Python* and *Bash*.
- **Driver Development:** Designed and implemented *drivers* of automated PCB testing Device(*I2C, UART*)

Firmware developer

Jan. 2022 – April 2022

Ford Motor Company of Canada

Remote

- **Unity/Cmock Test framework:** Lead developer for optimization for unit testing, achieving up to *30% faster* runtime while using *50%* less manually written test cases.
- **Automation:** Improved *Jenkins CI/CD* pipelines to support unit testing automation using *Python* for Linux server.
- **Embedded Trace Debugging:** Tested logging and interrupt algorithms and debugged on hardware test benches through CAN and Serial.
- **Automotive Design:** Maintained *AUTOSAR* standard design with *ISO26262 safety design* using *Davinci Configurator*.

PROJECTS

LC-3 Emulator: A C emulator for an educational ISA. Improves by 25% on research paper using *Python* data logging.

Real Time Executable: A RTOS implementation in STM32 capable of Pre-emptive task switching and its own Malloc

Stereo System: An embedded C implementation of a stereo playback system. Created with Quartus on Artix FPGA.

VHDL Compiler: A Java Compiler for creating combinational VHDL circuits. Using a boolean intermediate representation

TECHNICAL SKILLS

Languages: C/C++, Java, Python, Tcl, Bash scripting, ASM, VHDL, SystemVerilog/Verilog

Tools: Keil, Quartus, Git, Linux, Qemu, LLDB/GDB, Docker, WireShark, UVM, Matlab

Hardware: Oscilloscopes, Logic Analyzer, Multimeters, Spectrum Analyzer

Protocols: TCP/IP, JTAG, Serial, Ethernet, CAN/CAN-FD, LIN