

Ahnaf Shahriar

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

EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Applied Science in Computer Engineering

Sept. 2021 – May 2026

- Recipient of Richard & Elizabeth Madter Entrance Scholarship and President's Scholarship of Distinction
- **Relevant Courses:** Digital Communication Systems, Digital Computers(ARM), Real Time Operating Systems, Digital Hardware systems(Verilog)

EXPERIENCE

IC Design and Verification Intern

Jan. 2024 – May 2024

NXP Semiconductors Canada

Kanata, ON

- **IP Design:** Designed multiple IP blocks NXP's flagship dataplane processing SOC's upto *100Gbps*.
- **Timing Analysis:** Spearheaded critical path improvements for IP to meet *600Mhz* from 400Mhz.
- **Functional Testing:** Designed brand new End-to-End functional tests for *ECC Detection* on Chip.

IC Design Verification Intern

May 2023 – Aug. 2023

NXP Semiconductors Canada

Kanata, ON

- **UVM SystemVerilog:** Designed the *IP specific Virtual Sequence* and corresponding *Covergroups*.
- **Test Planning:** Created Simulation scenarios for testing IP block features in Dataplane processing.
- **Workflows:** Spearheaded migration to *Git* and designed Bash scripts for regression testing.

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* for the controls of 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 automating 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

Stereo System: An FPGA designed in Quartus and programmed in C. Implements stereo system audio.

Parallel Sorting Engine: An FPGA designed in Vivado with Verilog. Completes an Odd-even parallel sort.

Morse Code Time Machine: A multi-player STM32 hardware puzzle project created for escape Room environment

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

TECHNICAL SKILLS

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

Tools: Quartus, Git, Linux, Qemu, GNU Tools, Docker, WireShark, UVM, Matlab

Hardware: Oscilloscopes, Logic Analyzer, Multimeters, Spectrum Analyzer

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