

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:** Algorithms and Data Structures II, Systems programming and Concurrency, Instrumentation & Prototyping Lab, Embedded Microprocessing Systems

EXPERIENCE

Digital IP Verification Intern

May 2023 – Aug. 2023

NXP Semiconductors Canada

Kanata, ON

- **UVM SystemVerilog:** Designed Multi-threaded IP specific *UVM Sequences* for testing RTL Design.
- **Test Planning:** Created Simulation scenarios for testing IP block features in *Dataplane processing*.
- **Workflows:** Designed *Bash scripts* distributed regression jobs and *Git* workflows in *Red Hat Linux*.

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*.

Firmware Team Member

Sept. 2021 – Present

UW Midnight Sun Solar Rayce Car Team

Waterloo, ON

- **Macro Functionality:** Helped in abstracting RTOS functionalities through macros for ease of use in embedded programming.
- **Testing:** Programmed smoketesting firmware in C for *STM32* processors in Linux virtual machine using Vagrant Virtual Box.
- **CAN API autogeneration:** Implemented C file autogeneration using input yaml files through Python and Jinja2.

PROJECTS

LC VM: A C functional approach to implement an educational ISA. Improves on online design using Python data logging.

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

Cube Solver: A Program that can solve any Rubix Cube you scramble. Optimized for low level bitwise operations.

TECHNICAL SKILLS

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

Tools: 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