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 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.

TECHNICAL SKILLS

Languages: Python, C/C++, 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