

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:** Algorithms and Data Structures II, Computer Networks, Systems Programming and Concurrency, Compilers(Java)

EXPERIENCE

IC Design and Verification Intern

May 2023 – Aug. 2023, Jan. 2024 – May 2024

NXP Semiconductors Canada

Kanata, ON

- **IP Design:** Designed multiple IP blocks NXP's flagship dataplane processing chips.
- **Timing Analysis:** Spearheaded critical path improvements in IP block to increase speed by 50%.
- **Functional Testing:** Designed brand new End-to-End functional tests in simulating traffic for IP.
- **Unit Test Planning:** Created Simulation scenarios for testing High speed Dataplane Processing features.

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.
- **Containerization:** Docker containers for Gitlab pipelines to complete test and build jobs.

Firmware Developer

Jan. 2022 – April 2022

Ford Motor Company of Canada

Remote

- **Unity/Cmock Test framework:** Lead developer of 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. Used Static Analysis tools such as Sonarqube.

PROJECTS

CubeSolver | *C++, Linux, NCurses, OpenGL*

- A Program that can solve **any Rubix Cube** you scramble. Optimized for bitwise operations.
- Designed Unix **Terminal User Interface(TUI)** using NCurses to visualize Cube
- Optional 3D Visualization using **OpenGL** for movements.
- Coded in **OOP** with abstracted complex Graphics API code into simpler game engine API classes(Shaders, Vertex, Renderer, etc)

FindPng | *C*

- A **multithreaded** webscraper built with pthread library utilizing mutual exclusion primitives from Linux.
- Analyzes webpage contents using **Breadth First Search** for sublinks found in pages with duplicate analysis.
- Implements **Producer-Consumer** design to parallelly analyze file metadata to identify format.

Home Server | *Rust, Linux, Raspberry pi*

- A light multi-threaded webserver using **Sockets** made on Pi 4 for file serving and website hosting.
- Implements **Cloudflare Tunneling** for global internet encryption and protection
- Designed Secure Login for Remote development environment in Linux.

TECHNICAL SKILLS

Languages: C/C++, Python, Rust, Java, Javascript, SQL, Bash and shell scripting, ASM

Frameworks: LLVM, OpenGL, ROCm, Node Js, ElectronJS

Developer Tools: Git, Docker, WireShark, Qemu, Matlab

Libraries: pandas, NumPy, Matplotlib, pyTorch