

Ahnaf Shahriar

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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
- GPA: 3.7
- **Relevant Courses:** Algorithms and Data Structures, Digital Computers, Digital Circuits and Systems. Systems & Concurrency

EXPERIENCE

Digital IP Verification Intern

May 2023 – Sep. 2023

NXP Semiconductors Canada

Kanata, ON

- **UVM SystemVerilog:** Designed testbench stimulus environment for an IP Block in Dataplane processing.
- **Test Planning:** Created Simulation scenarios for testing IP block features and edgecases.
- **Simulation:** Worked on Simulation Environment programming to reach total functional coverage.

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 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.
- **Embedded Debugging:** Debugging code for *MISRA* and *ISO26262* compliances using Static Analysis tools.

PROJECTS

CubeSolver | C++, Unix, NCurses

- 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

SEER | Javascript, ElectronJS, NodeJS, HTML/CSS

- Utilized the **Yahoo Finance API** JS library and created stock analysis app
- Leveraged ElectronJS to create a seamless **Cross-Platform App** running on Chromium

Game Of Life | C++, Python, OpenGL

- Cellular Automata simulation visualized using **2D OpenGL** Rendering. Created entire Visual Engine and **graphics pipeline**.
- Coded in **OOP** with abstracted complex Graphics API code into simpler game engine API classes(Shaders, Vertex, Renderer, etc)

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, JavaScript, HTML/CSS, Bash and shell scripting, ASM

Frameworks: Node.js, JQuery, Django, Flask, OpenCV, Numpy, SSG tools(Jekyll, Hugo)

Developer Tools: Git, Ansible, OpenSSL, Docker/K8s, Jenkins, SonarQube, Github Actions, VS Code

Libraries: pandas, NumPy, Matplotlib, pyTorch, TensorFlow