Ahnaf Shahriar

Email | LinkedIn | Github | Personal Website

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, 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 automatino 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