

Haroon Shahbaz

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Experience

Software Engineer - Rust, Golang, Linux, Wazuh

May 2025 - Dec 2025

ARCTIC WOLF

Waterloo, ON

- Contributed to the integration of **BlackBerry's Aurora Endpoint Agent** technology into the team's backend infrastructure, developing and optimizing components in Go
- Developed and deployed a Linux-based log collection system, implementing a Wazuh and NXLog replacement to streamline event collection and enhance security monitoring capabilities
- Participated in security investigations and compliance assessments for the Win32 Agent, contributing to preparations for **CMMC certification** and ensuring adherence to federal cybersecurity standards
- Served as on-call support for DevOps incidents, hastily diagnosing and resolving critical issues

Security Engineer - SIEM (Splunk, Sigma), Python, Yaml, Sysmon

Jan 2024 - Sep 2024

ARCTIC WOLF

Waterloo, ON

- Engineered a custom Python monitoring tool that analyzed system event logs against Arctic Wolf's SIEM platform, achieving **99%** log coverage validation and automated detection gap identification
- Developed and maintained **100+** automated **sigma detection rules** using Python scripting and Linux-based analysis tools, demonstrating proficiency in automated system validation and quality assurance
- Developed and tuned **network-based detections** for suspicious traffic patterns using IDS tools; assisted in real-time incident response and containment of potential threats
- Researched and analyzed network-based threats such as exploit kits and port scans; contributed to updating firewall rules and IDS signatures to strengthen perimeter defenses

Data Engineer - Python, SQL, Digital Signal Processing, Matlab/Simulink

Apr 2022 - Aug 2022

VUEREAL

Waterloo, ON

- Established and optimized a robust **database system** connecting epitaxial wafer characterization data with LED die performance, enhancing manufacturing efficiency through automated data pipeline integration
- Developed and trained a linear regression Python model using Pandas on Jupyter framework, boosting LED harvesting accuracy by **50%** and accelerating production workflows through automated analysis

Projects

Automated Build System & Testing Framework - Python, Linux, Bash

Apr 2025 - Mar 2025

- Architected and implemented a comprehensive Python-based automation framework with 15+ modular tools including system monitoring, validation testing, and automated quality assurance utilities
- Implemented centralized build framework with automated activity logging, standardized interfaces, and modular design enabling seamless integration of new tools and structured CI/CD workflows

Fall Detection Device - C/C++, WiFi Module, Embedded Systems

Jan 2025 - Mar 2025

- Engineered an ESP32-based wearable fall detection system in C/C++ using the MMA8452Q accelerometer, implementing real-time monitoring of acceleration vectors to identify fall events
- Developed WiFi-enabled data transmission to a remote server using TCP/IP over the ESP32, enabling instant fall alerts and integration with caregiver monitoring systems
- Integrated hardware debouncing with the Bounce2 library for manual emergency button input, and designed alarm activation logic for on-device audible/visual alerts during detected emergencies

Skills

Languages: Python, Rust, Golang, C++, C, Java/Springboot, MATLAB/Simulink, Javascript, SQL, YAML, Assembly

Security Operations & Tools: SIEM (Splunk, Sigma), Sysmon, IDS/IPS, Docker, Git, Wireshark, Virtual Machines

Certifications: CompTIA Security+, Google Cybersecurity Professional Certificate, IBM Python for Data Analysis

Education

B.ENG Computer Engineering

Sept 2021 - Apr 2026

UNIVERSITY OF GUELPH

Guelph, ON