

Murtaza Hussaini

Ottawa, ON K2K 2R5 | 437-984-4050 | imor.hu@gmail.com | LinkedIn: [murtazahussainii](#) | GitHub: [murtazahussainii](#)

SUMMARY

Recent Computer Engineering graduate from York University with 3 years of software development experience across telecommunications, banking, and retail domains. Skilled in embedded systems, C/C++, secure communications, and real-time OS environments. Seeking to contribute to a team focused on developing secure and efficient embedded software systems.

HIGHLIGHTS OF SKILLS & QUALIFICATIONS

Languages: C (FreeRTOS, VxWorks), C++ (STL), Python (Pytest, Flask), Bash, SQL

Frameworks/Tools: Git, GDB, Wireshark, Jenkins, Docker, Bitbucket

Embedded Systems: VxWorks, Embedded Linux, UART/SPI/I2C, Secure Boot

Security: TLS/SSL, SSH, X.509 certificates, AES/RSA encryption

Networking: TCP/IP, OSI Model, Ethernet, SNMP, IPv4/IPv6

DevOps/Test: Pytest, Unity (C test framework), Jira, Agile/Scrum

EDUCATION

Bachelor of Engineering (B.Eng) in Computer Engineering

York University, Toronto, ON — April 2025

- **Relevant Courses:** Embedded Systems, Operating Systems, Digital Communication, Software Testing

PROFESSIONAL EXPERIENCE

Embedded Software Developer Intern

Redline Communications— Toronto, ON

Jan 2023 – April 2023

Languages & Tools: C++ (Boost, STL), Python (pytest, pandas), Git, Jenkins, Docker, GDB, Linux

- Developed secure C-based firmware for point-to-point radio systems running on VxWorks RTOS.
- Integrated TLS/SSL support into embedded network stack using OpenSSL for secure remote management.
- Collaborated with hardware engineers to interface SPI/I2C-based sensors, enhancing system telemetry.
- Refactored legacy modem drivers in C to support IPv6 and SNMPv3, reducing defect rate by 14%.
- Created diagnostic scripts in Python for automated RF signal testing, improving QA throughput by 27%.

Technologies: C (VxWorks), Python (Pytest), Bash, Wireshark, TLS, X.509, SPI, SNMP

Software Developer Co-op

RBC Bank— Markham, ON

Jan 2022 – Dec 2022

- Contributed to internal Python Flask microservices for secure document processing and storage.
- Implemented role-based access control and SHA-256 encryption for secure data transmission.
- Participated in daily Agile stand-ups and code reviews, increasing team sprint velocity by 18%.
- Developed unit tests with Pytest and integration tests with Postman, improving test coverage to 95%.

Technologies: Python (Flask, Pytest), REST, Git, Jenkins, JWT, Agile

Digital Experience Coordinator

Designer Shoe Warehouse — Toronto, ON

Jan 2023 – Apr 2023

- Maintained customer-facing retail app backend using C++ and REST APIs, reducing API latency by 17%.
- Integrated secure payment protocols using TLS and tokenized credit card data.
- Migrated key services to Docker containers, decreasing deployment time from hours to under 9 minutes.
- Designed and maintained SQL queries and Python scripts to generate performance dashboards for exec teams.

Technologies: C++ (STL), Python, TLS, REST, SQL, Docker, Jenkins

UNIVERSITY PROJECTS

Automated Vacuuming Intelligent Device (AVID) | C, GDB, GCC, UART, Embedded Linux | [GitHub](#)

[↗](#) | [Demo](#) [↗](#)

Feb 2024

- Programmed real-time obstacle avoidance in C using ultrasonic sensors with <50 ms response time.
- Debugged on embedded Linux using GDB, reducing system crashes by 75%.
- Implemented non-blocking logic and UART-based Bluetooth control for remote navigation.

Sphere Movie | Java (Spring Boot), React, MongoDB, JWT | [GitHub](#) [↗](#) | [Demo](#) [↗](#) May 2023

- Built secure full-stack app with JWT authentication and REST APIs.
- Optimized MongoDB queries and lazy-loaded UI, cutting load times by 40%.
- Applied secure API design and microservice structure for modular access control.

CERTIFICATIONS & AWARDS

-
- Certified Embedded Systems Engineer – Coursera
 - Cybersecurity Fundamentals – IBM / Coursera
 - Arm Cortex-M Programming – Arm Education / FastBit
 - Introduction to Linux – The Linux Foundation
 - Scrum Foundation Certificate – SFPC
 - Best Capstone Project – York Engineering Design Day (2025)

VOLUNTEER ACTIVITIES

Refugee Learning Nest | Basic Computer Skills

June 2015 - May 2016

- Led weekly workshops on computer fundamentals and web safety to refugee youth and women.
- Introduced Python basics and secure online practices, reaching over 80 learners in 3 months.

ADDITIONAL INFORMATION

- Open to relocation and hybrid work models
- Languages: English, Dari