

## Education

### Carleton University

*Expected May 2026*

*B.Sc. Computer Science, Cybersecurity Specialization; Minor in Statistics*

- Secure Coding (Python, Go, C/C++, Bash)
- Penetration Testing (Kali Linux, Metasploit, Burp Suite)
- SIEM & Incident Response (Splunk Enterprise, ELK Stack)
- Cloud & Network Security (AWS, Azure)

## Certifications

- AWS Cloud Practitioner Essentials
- Fortinet Certified Associate Cybersecurity
- IBM Cybersecurity Fundamentals
- Cisco Certified Ethical Hacker (CEH)
- Splunk: Intro to Splunk
- Forage Cybersecurity Simulations (Mastercard, AIG, CommBank)
- Google Cybersecurity Professional Certificate (In Progress)
- CompTIA Security+ (Expected September 2025)

## Experience

### MVerse Technology Solutions

*App Developer (Co-op)*

May 2025 – Present

- Designed and developed a **Flutter/Firebase** mobile application with a **security-first** approach, implementing **OAuth2** authentication, encrypted local data storage, and onboarding **100+ active users**.
- Architected and integrated **REST** and **gRPC APIs** using **FastAPI** and **Node.js**, backed by **PostgreSQL** and **Redis**, enabling **sub-200ms real-time data synchronization** across services.
- Automated end-to-end **CI/CD pipelines** using **GitHub Actions** and **Jenkins**, adding unit tests with **pytest**, UI tests with **XCTest**, and integration tests in **Appium**.

### MVerse Technology Solutions

*Software Tester & Coordinator (Co-op)*

May 2024 – September 2024

- Collaborated with **U.S.-based company Om Research** as their **software partner**, diagnosing and resolving issues in **AI/ML learning models** and **data pipelines** to **streamline workflows** and **reduce downtime**.
- Conducted **regression testing**, **functional** and **non-functional testing** to validate **model stability**, **accuracy**, **bias**, **fairness**, and **robustness** across updates.
- Documented test results and maintained detailed **performance records** while participating in requirement reviews, providing actionable feedback on **testability** and **model improvements**.

## Projects

### Splunk Multi-Cloud Threat Analysis Platform

*AWS, Terraform, Ansible, Splunk, Docker, Python*

Dec 2024 – June 2025

- Automated provisioning of a **multi-account AWS** lab environment using **Terraform** and **Ansible**, including **VPC networks**, **EC2 instances**, **CloudTrail logging**, and optional **Phantom SOAR integration**.
- Executed and replayed multiple **MITRE ATT&CK techniques** via **Python** and **Boto3**, achieving **85% detection accuracy** in **Splunk** with no false positives.
- Containerized the **HTTP Event Collector (HEC)** pipeline in **Docker** and deployed on **EKS**, publishing a live, interactive **Splunk dashboard** for **SOC analysts**.

### Emergency Mesh Network System

*C, Custom Protocols, Embedded Systems, Raspberry Pi*

Feb 2025 – April 2025

- Implemented a decentralized **mesh network** in **C** with **distance-vector routing**, **auto-discovery**, and **signal-quality hop-count metrics** for reliable **device-to-device messaging** without external infrastructure.
- Built a **hardware abstraction layer** for both simulation (**UDP sockets**) and Raspberry Pi (**WiringPi**, **SPI**, **UART**), featuring offline **map tiles**, **NMEA GPS integration**, and real-time **node location sharing**.
- Secured communications using a custom lightweight packet protocol with **MACs**, **XOR encryption**, and **adaptive RF channel scanning**, ensuring operation despite node failures and power constraints.