

Youssuf Helaly

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EDUCATION

University of Ottawa (uOttawa)

Ottawa, ON

Bachelor of Applied Science in Software Engineering | 3.95/4.0 GPA

Expected Graduation: Apr 2027

WORK EXPERIENCE

Trend Micro

Kanata, ON

Software Engineering Intern

Sept 2025 - Dec 2025

- Enhanced backend features of a **Go-based digital twin** simulation platform, improving **multi-tenant session management**, **networking simulations**, and **layered file system** performance, reducing resource overhead by ~20%.
- Strengthened **cybersecurity training simulations** by refining shell emulation, privilege escalation scenarios, and integrating external systems (MCP, OpenTelemetry, Redis).
- Built intelligent **cybersecurity** event **processor** that transforms raw system logs into **educational** attack narratives with **real-time** phase tracking and **business impact** analysis, processing 1000+ events per **simulation** for stakeholders

Nokia

Kanata, ON

Full-Stack Engineering Intern

Jan 2025 - Apr 2025

- Engineered a high-performance **Java Spring** backend, reducing bugs and **Tomcat** log errors by 20%.
- Optimized **Elasticsearch** queries, significantly enhancing system responsiveness.
- Enhanced **React/Redux** frontend, fixing API issues and reducing load times by 40%, improving user experience.
- Used **Docker**, **Kubernetes**, and **Jenkins** for build automation in a **Linux** environment.
- Collaborated with engineers, PMs, and designers in a fast-paced **Agile Scrum** team, ensuring effective communication.
- Authored **PostgreSQL** migration scripts, ensuring 100% data integrity and reducing transition time during updates.

Solink

Kanata, ON

Software Engineering Intern

May 2024 - Aug 2024

- Designed and implemented 50+ test cases and 5,000+ lines of code using **Pytest** and **Robot**, establishing a new automation framework that improved release quality and reduced manual testing by 30%.
- Developed scalable **RESTful** APIs in **Python**, managing 20+ **YAML**-configured endpoints, and collaborated with frontend and product teams to rapidly launch new features.
- Automated test execution workflows, resulting in savings of \$2,000+ monthly and accelerating release cycles.

PROJECTS

Image Analysis Web Application | [Source Code](#)

ReactJS | Flask | AWS | SQL

- Developed a scalable web app for image analysis using **React** and **Flask**, leveraging **AWS Rekognition** for image processing and **S3** for storage, improving search efficiency by 40%.
- Managed image uploads, user authentication, and filtering, processing 500+ images in seconds and delivering high-impact solutions under tight deadlines.
- Optimized **SQLite** database queries to enhance application performance and reduce processing redundancy.

Slice Storm | [Source Code](#)

Python | Pygame

- Implemented a feature-rich 2D slicing game with advanced **UI/UX**, pause functionality, and dynamic difficulty.
- Utilized **object-oriented programming** principles to optimize code maintainability and performance.

SKILLS

Languages: JavaScript, Python, Go, SQL, Java, TypeScript, C, HTML, CSS

Libraries/Frameworks: Spring Boot, React, Next.js, Flask, Redux, TensorFlow, PyTorch, NumPy, matplotlib

Tools: Git, Docker, Kubernetes, AWS, Jenkins, JUnit, Linux, Elasticsearch, PostgreSQL, Redis, MCP

LEADERSHIP EXPERIENCE

Volunteering – Led volunteer teams, collaborating with staff and partners to support the homeless.

Jan 2025

Sports – Gold medalist and regional champion in soccer as captain, showcasing leadership and determination.

May 2024

Conferences – Participated in leadership and professional growth conferences, enhancing skills for future success

Nov 2023