

Ryan Johnson

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Education

Carleton University – Bachelor of Science: Computer Science

December 2025

- Focus in Cybersecurity.
- Relevant courses in Applied Cryptography and Authentication, Computer Systems Security, Database Management Systems, Quality Assurance, Network Security and Operating Systems.
- Compiled and uploaded organized notes for Computer Science courses, assisting peers in exam preparation and understanding complex topics.

Skills

Programming Languages: Java, JavaScript, HTML, CSS, C++, C, Python

Technologies: Git, TortoiseSVN, Postman, Linux, SQL, PostgreSQL, Wireshark, JUnit, Cypress, Cucumber, Maven

Experience

Software Developer Intern, KiM GmbH - *Germany*

Summer 2024

- Tested the CADClick 3D visualization API (RESTful, JSON) using Postman to ensure accurate 3D profile rendering in the browser.
- Developed parametric CAD models and profiles.
- Created UI features for the CADClick 3D visualization tool using JavaScript, CSS, and HTML to display different models together, anchored, and with interchangeable profiles.

Projects

Linux Kernel Modules

C, Bash, Linux

- Hooked multiple syscalls (openat, execve, getdents64) by modifying read-only syscall table pages.
- Built a backdoor by modifying task credentials during execve and grants privileged access.
- File-cloaking functionality via getdents64 to filter directory entries in kernel memory and return a sanitized directory.

Encrypted Password Manager

Python, SQLite, PySide6, Qt

- Developed a secure password manager with a Qt-based GUI for managing and storing credentials.
- Implemented local storage using SQLite with Fernet symmetric encryption for sensitive data.
- Protected master passwords with Argon2 hashing and PBKDF2-HMAC key derivation for security.

Health Monitor Device Simulator

C++, Qt

- Created a simulation of a RaDoTech health monitoring device to replicate measurement workflows and health result generation.
- Implemented MVC architecture and observer pattern to manage profiles, handle simulated device interactions, and display detailed results.

Library Management System - Agile Workflow

Java, Javascript, Cucumber, Cypress, Node, Express

- Built a system that supports authentication, user book borrowing, returning, and handling of a hold queue.
- Applied Test-Driven Development for backend logic, Behavior-Driven Development with Cucumber for feature scenarios, and Web Acceptance Testing with Cypress for end-to-end validation and UI.

Additional Work

Lead Bartender, Algonquin Resort - *New Brunswick*

May - August 2023

- Crafted drinks according to individual orders, ensuring quick service and customer satisfaction.
- Conducted regular inventory counts for beer, liquor, and other bar supplies to maintain accurate stock levels.

Server, Algonquin Resort - *New Brunswick*

May 2022 – August 2025 (Seasonal)

- Provided high-quality customer service in a fast-paced environment while managing multiple tasks, prioritizing orders, and maintaining accuracy and efficiency.