

Ryan Thalís

613-263-4769 | ryan.thalis9@gmail.com

linkedin.com/in/ryanthalis | github.com/ryanthalis

Software Engineering Student | Available January 2027 for 12 months

EDUCATION

Carleton University

Ottawa, ON

Bachelor of Engineering in Software Engineering

Expected April 2029

Current Coursework (in progress): Operating Systems (threads, synchronization); Real-Time Systems; Software Development Project; Software Requirements Engineering.

TECHNICAL SKILLS

Languages: Python, Java, SQL, C, HTML, CSS Verilog; assembly-language fundamentals

Backend & Databases: FastAPI, Pydantic, REST APIs, SQLite, CRUD operations, schema migration

Testing & Tools: unittest, JUnit 5, assertions, unit and edge-case testing, Git, GitHub Actions (CI), Maven, IntelliJ IDEA, Visual Studio Code

Programming Fundamentals: Object-oriented and modular design, classes, encapsulation, inheritance, polymorphism, interfaces; C pointers, structs, dynamic memory, recursion

Development Practices: File I/O, input validation, exception handling, debugging; UML, Javadoc, docstrings, type annotations

Data Structures & Algorithms: Arrays, linked lists, stacks, queues, dequeues, priority queues, hash tables, BSTs, AVL trees, heaps, graphs; sorting, searching, Big-O analysis

TECHNICAL PROJECTS

Life Dashboard | Python, FastAPI, SQLite, Pydantic

- Built a workout and study tracker with a CLI and FastAPI REST API sharing a reusable SQLite data layer; supported CRUD operations, partial updates, and category filtering.
- Applied test-driven development (TDD) to database validation; enforced SQLite constraints and validated API requests and responses with Pydantic models.
- Implemented versioned schema migration to preserve existing records and IDs; used parameterized SQL and explicit transaction handling for database operations.
- Built 48 automated tests across API, database, migration, and CLI behavior using temporary databases and mocks; automated test runs on pushes and pull requests with GitHub Actions.

Cybersecurity Incident Response System | Java, Maven, JUnit 5

- Designed a Java console application to track malware and phishing incidents through resolution using an abstract base class, inheritance, and a reporting interface.
- Preserved ordered audit logs, protected internal collections with defensive copies, and generated incident reports through polymorphism.
- Wrote JUnit 5 tests covering validation, audit-log order, defensive copying, repeated resolution, and polymorphic reports.

Data Structures and Algorithms | Python, unittest

- Implemented and tested dynamic arrays, linked lists, stacks, queues, hash tables, AVL trees, graphs, and sorting and searching algorithms; adapted a binary heap implementation.
- Implemented array resizing with amortized $O(1)$ appends and tail pointers for $O(1)$ linked-list appends; documented Big-O complexity and tested boundary cases.

WORK EXPERIENCE

Tim Hortons | Team Member

Jan 2023 - Present

- Managed front-counter, mobile, and drive-thru orders in a high-volume environment while maintaining service quality; trained new employees on POS systems and workplace procedures.

Additional Experience: Real Canadian Superstore, HMR/Deli Clerk (Jul 2021 - Jan 2023); Elemental Data Collection, Interviewer (Jan 2021 - Jun 2021)

VOLUNTEER EXPERIENCE

Food Bank Volunteer

Apr 2025 - Aug 2025

- Managed client intake and prepared personalized food packages while following eligibility, documentation, and service policies.

Peer Tutor

Jan 2020 - May 2023

- Explained academic concepts one-on-one and in small groups, adapting explanations to individual learning needs.