

GRANT ACHUZIA

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EDUCATION

Carleton University

Bachelor of Engineering in Computer Systems Engineering

September 2021 – May 2026

Ottawa, Ontario

PROFESSIONAL EXPERIENCE

Lumentum

System Software Solution Test Intern | Design Verification & Test Intern

January 2025 – August 2025

Ottawa, ON, Canada

- Launched end-to-end test automation & CI/CD pipelines with GitHub Actions, Node.js, Selenium WebDriver & Tauri driver, cutting manual regression test cycles from several hours to <30 minutes per release.
- Designed Bash-based scripts with SSH, gNOI/gNOIC, and core Unix utilities to automate firmware upgrades and connectivity checks across 4 devices, reducing engineer intervention by 80%.
- Architected a modular Python CLI reporting tool to auto-generate PDF & PPTX test reports, saving the team ~ 10 hours/week previously spent on manual documentation & debugging.

Maintenance Drone Co.

Software Developer Intern

May 2024 – December 2024

Ottawa, ON, Canada

- Earned Transport Canada Small RPAS Advanced Operations Certificate; piloted drones to capture 1,000+ high-resolution roof survey images for AI training datasets.
- Engineered a Python flight-planning suite (Shapely & Matplotlib) to parse KML/XML geospatial data into optimized drone waypoints, cutting manual route setup by 70%.
- Instrumented NumPy-based grid downsampling & noise filtering to process point-clouds 2x faster while preserving structural geometry, improving Blender-based AI annotation efficiency.

Roof Maintenance Solutions

Software Developer Intern

May 2022 – December 2023

Ottawa, ON, Canada

- Created a Python class to streamline annotation data imports/exports, reducing report prep time from 1 hour to <20 minutes per survey
- Authored regex-powered XML validation to detect & auto-correct survey annotation errors, boosting report accuracy by 40% and reducing costly re-inspections.

PROJECTS

Fire Alarm Notification System (FANS)

3rd Year Engineering Project | Python, JavaScript, HTML/CSS

- Built a web UI for live fire alarm monitoring & customization using Flask, JavaScript & Python, enabling real-time responsiveness with <2s update latency.
- Integrated a Raspberry Pi Pico buzzer with MicroPython, syncing alarms & LEDs to a Firebase backend for 99% uptime during stress testing.
- Configured sensor sensitivity & alarm triggers on a Raspberry Pi 4 to optimize FANS' responsiveness in detecting smoke & temperature changes.

Elevator Simulator

Real-Time Concurrent Systems Project | Java

- Implemented JUnit test classes and managed the testdata.txt suite, achieving 95%+ code coverage and ensuring robust functionality of elevator, floor, and scheduler subsystems.
- Enhanced the Elevator Simulator's testing suite and state machine logic across 5 iterations, including updates to the elevator, floor, & scheduler subsystems.

ACTIVITIES

Canadian Engineering Competition (National Programming Category)

Bronze Medalists

March 2024

Calgary, AB, Canada

- Optimized pathfinding on a CSV-driven 100x100 grid with an A* algorithm using environmental heuristics.
- Developed a responsive web UI in HTML/CSS/JS to visualize real-time extraction paths, improving judge evaluation clarity & usability.

TECHNICAL SKILLS

Languages: Python, C, C++, JavaScript, TypeScript, SQL, Bash, PowerShell, Java, Verilog

Frameworks & Tools: React, Flask, Docker, Git, GitHub Actions, Figma, LaTeX

Platforms: Linux, Jira, Jenkins, Firebase

Concepts: Data Structures & Algorithms, OOP, Concurrency, Computer Architecture, Computer Networking, CI/CD, DevOps, Agile/Scrum, Test Automation