GRANT ACHUZIA

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EDUCATION

Carleton University ***September 2021 – May 2026***
Bachelor of Engineering in Computer Systems Engineering Ottawa, Ontario

PROFESSIONAL EXPERIENCE

Lumentum ***January 2025 – August 2025***
System Software Solution Test Intern | *Design Verification & Test* *Ottawa, ON, Canada*

- Launched **end-to-end test automation and CI/CD pipelines** using **GitHub Actions, Node.js, Selenium WebDriver, and Tauri driver**, reducing manual regression test cycles from **hours to less than 30 minutes per release**.
- Designed **Bash-based scripts** with **SSH, gNOI/gNOIC, Unix utilities** to automate firmware upgrades & 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** on documentation & debugging.

Maintenance Drone Co. ***May 2024 – December 2024***
Software Developer Intern *Ottawa, ON, Canada*

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

Roof Maintenance Solutions ***May 2022 – December 2023***
Software Developer Intern *Ottawa, ON, Canada*

- Created a **Python class** to streamline **annotation data imports/exports**, reducing report prep time from **1 hour** → **<20 minutes**.
- 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, Flask, Firebase, Raspberry Pi***

- Built a web UI for **live fire alarm monitoring & customization** using Flask, JavaScript & Python, enabling **real-time responsiveness (<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 responsiveness in detecting smoke & temperature changes.

Elevator Simulator
Real-Time Concurrent Systems Project | ***Java, JUnit***

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

ACTIVITIES

Canadian Engineering Competition (National Programming Category) ***March 2024***
Bronze Medalist *Calgary, AB, Canada*

- Optimized pathfinding on a **100×100 CSV-driven grid** with an **A* algorithm** using environmental heuristics.
- Developed a **responsive web UI (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