Mannix Graham

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EDUCATION

Wilfrid Laurier University, Waterloo, ON

Bachelor of Science, Computer Science (Honours Specialization) - Expected Dec 2027

Relevant Coursework: Data Structures 1 and 2, Software Engineering, OOP, Computer Networks, Data Algorithms

Certifications: AWS Certified Cloud Practitioner (CLF-C02) — Currently Preparing

TECHNICAL SKILLS

Cloud & DevOps: AWS (EC2, VPC, Site-to-Site VPN, IAM, CloudWatch, CloudTrail), Terraform (IaC), CI/CD pipelines, GitHub Actions (OIDC), Azure DevOps, Docker, Kubernetes (k3s, learning)

Languages & Scripting: Python (boto3), Bash, PowerShell, Git/GitHub, REST APIs

Testing & Automation: Playwright, Selenium, pytest, deployment validation, log analysis, troubleshooting

Networking & Monitoring: Power BI, Cisco IOS, site-to-site IPsec VPN (strongSwan), Proxmox VE, Tailscale, Caddy

RELEVANT EXPERIENCE

Quality & Product Support Intern | Alcohol and Gaming Commission of Ontario, Toronto, ON

Python · Playwright · Selenium · Azure DevOps · Power BI · Beautiful Soup | May 2026 - Aug 2026

- Automated release-readiness smoke testing by leading R&D of the team's first Playwright (Python) suite across 14 test cases, **cutting full regression execution from 3.5 hours (manual) to 7 minutes, a 97% reduction**.
- Enabled the QA team to adopt automation by authoring a training guide and leading a live demo, **resulting in 4 of 6 teammates independently building and maintaining test cases post-internship**.
- Validated defect fixes with developers via log analysis in Azure DevOps, **resolving 1 defect and 5 support tickets weekly within 1–2 sprint cycles** and running 10+ test cases per sprint with no coverage gaps across 5–6 sprints.
- Validated operational readiness by executing disaster-recovery test scenarios against a 24-hour RTO across 3 critical systems, **documenting outcomes to support AGCO's business-continuity testing process**.
- Reduced manual monitoring effort with a Python scraper that tracks AGCO-related news and social mentions and surfaces volume trends, **later adopted by the AGCO Communications intern**.

PROJECTS

Enterprise Hybrid AWS Environment — Cloud Portfolio Project

Terraform · AWS (VPC, Site-to-Site VPN, IAM, CloudWatch) · GitHub Actions (OIDC) · strongSwan · Proxmox

- Built a multi-AZ AWS VPC with a NAT gateway from a modular Terraform codebase (bootstrap, modules, environments). The dev environment is torn down when idle and rebuilt through the pipeline, with no console changes.
- Secured deployments with GitHub Actions and short-lived OIDC credentials: a read-only plan on every pull request, applies gated behind human approval, and no long-lived AWS keys.
- Connected AWS to my homelab with a site-to-site VPN: a Virtual Private Gateway with two IPsec tunnels through double NAT to a strongSwan VM (route-based, XFRM interfaces). Testing homelab-to-VPC traffic now, CloudWatch alarms next.

CloudGuard — Agentic AWS Operations Assistant (in development)

Python · boto3 · AWS IAM · LLM agents (tool calling) · Terraform · FastAPI (planned)

- Building an AWS operations tool in phases. It starts with read-only boto3 scans under a least-privilege IAM role, then adds detection rules for cost waste and security misconfigurations, each tested against resources I deliberately misconfigure in a separate sandbox account.
- Designing an agentic AI layer that investigates findings and incidents. An LLM agent calls read-only AWS tools (CloudTrail, CloudWatch, resource scans), explains the likely cause, and proposes a fix as a Terraform change pending human approval.

Self-Managed Network & Virtualization Homelab

Cisco IOS · Proxmox VE · Tailscale · strongSwan · Docker · Caddy · Debian Linux · k3s (learning)

- Run a Proxmox host behind a Cisco RV260 and Catalyst 3550, with remote admin over a Tailscale subnet route and public traffic through Tailscale Funnel, so no router ports are open.
- Self-host my portfolio on a Caddy container, deployed on every push by GitHub Actions through an ephemeral, ACL-restricted tailnet node and an rsync-only deploy user.
- In progress: server, client and management VLANs with inter-VLAN ACLs.

ADDITIONAL WORK EXPERIENCE

Operations Associate | City of Waterloo | Sept 2025 – Present

- Maintained continuity of service for 200+ patrons per shift by troubleshooting incidents across facility systems and coordinating event setups with teams of 6–8 staff.

Facility Attendant | City of Brampton | Jan 2023 – Present

- Prevented unplanned outages by monitoring ice, brine, and compressor systems each shift and escalating deviations early.