Hayden Murphey

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github.com/haydenmurphey | haydenmurphey.site (Portfolio) | linkedin.com/in/haydenmurphey

EDUCATION
James Madison University | Bachelor of Computer Science, Minor in Music   Graduation Date: **December 2025**

SKILLS
Cloud & DevOps: *AWS (ECS, ECR, VPC, S3), Terraform, Docker, GitHub Actions, CI/CD, Reverse Proxies (Caddy, Nginx)*
AI & Automation: *CodeGenie (Serverless AWS), GitHub Copilot, Prompt Engineering (DataAnnotation)*
Languages & Tools: *Python, Bash, C, PowerShell, Rust, Ruby, Java, Git, JSON/YAML, pytest*
Networking & Security: *Tailscale (VPN), Cisco IOS (L2/L3), IPS, TLS/SSL Management*

Certifications & Professional Memberships:
- ❖ *(ISC)2 Certified in Cybersecurity (Issued Feb: 2025)*
- ❖ *AWS Certified Cloud Practitioner (Issued: Feb: 2026)*
- ❖ *AWS Certified Solutions Architect - Associate (Expected Mar: 2026)*
- ❖ *Association for Computing Machinery (ACM), Member*

TECHNICAL PROJECTS
Hybrid Cloud Platform & CI/CD Pipeline (AWS, Terraform)   January 2026 - Present
- ❖ Infrastructure as Code (IaC): Architected a hybrid-cloud environment using Terraform to provision AWS VPCs, ECS Fargate clusters, and ECR repositories, ensuring reproducible and version-controlled infrastructure.
- ❖ Automated CI/CD: Engineered a deployment pipeline via GitHub Actions that containerizes a Python-based microservice with Docker and handles automated, zero-downtime updates to AWS.
- ❖ Secure Networking: Integrated Tailscale to bridge a local Raspberry Pi 5 homelab with AWS private subnets, enabling secure communication between on-prem and cloud resources without public exposure.

Personal Homelab & Network Infrastructure   November 2025 - Present
- ❖ Zero Trust & Containerization: Orchestrated a multi-container environment using Docker Compose, deployed a Caddy reverse proxy with automated TLS certificates and localhost binding to eliminate public port exposure.
- ❖ Security & Threat Prevention: Architected a Zero Trust Network Access mesh via Tailscale, hardened by CrowdSec IPS to block malicious traffic, and enforced BitLocker Full Disk Encryption to secure physical assets.
- ❖ Disaster Recovery & Automation: Engineered automated, multi-threaded disaster recovery workflows using PowerShell and Robocopy, ensuring continuous backup of container volumes and critical configuration states.

PintOS (CS 450), Harrisonburg, VA   Fall 2025
- ❖ Systems Programming: Reimplemented the timer subsystem with interrupt-driven sleep queues to eliminate busy-waiting and improve CPU utilization.
- ❖ Agile Collaboration: Utilized Agile/SCRUM methodologies to manage milestones, code reviews, and feature integration in a high-concurrency team environment.

WORK EXPERIENCE
DataAnnotation, *Software Validation - AI trainer (contract)*   May 2025 - Present
- ❖ Software Quality Engineering: Validated AI-generated code against strict technical specifications, ensuring high-quality output and adherence to logic requirements.
- ❖ API Testing & Agentic Workflows: Developed Python scripts to validate RESTful API integrations and engineered prompts to optimize the logical reasoning, decision-making, and execution workflows of AI models.
- ❖ Automated Testing & Debugging: Utilized Python to reproduce edge-case bugs, verifying fixes for complex logic errors, and automated quantitative analysis in an iterative delivery environment.

Townes Site Engineering, *Geotechnical Technician*   May 2021 - August 2025
- ❖ Worked in a fast-paced environment delivering material testing/inspection on site and in the lab for 40+ projects.