Hayden Murphey

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EDUCATION

James Madison University, Harrisonburg, VA — Graduation Date: **December 2025**
Bachelor of Computer Science, Minor in Music

SKILLS

Cloud & DevOps: *AWS (ECS, ECR, VPC, S3), Terraform, Docker, GitHub Actions, CI/CD, Proxmox VE*
AI & Automation*: CodeGenie (Serverless AWS), GitHub Copilot, Prompt Engineering (DataAnnotation)*
Languages: *Python, Ruby, Rust, Bash, Java, C, Javascript, HTML, CSS*
Networking & Security: *Tailscale (VPN), Cisco IOS (L2/L3)*
Tools*: Pi-hole, NumPy, pandas, pytest, JSON, YAML, Git*

Certifications & Professional Memberships:

- *(ISC)2 Certified in Cybersecurity (Issued Feb: 2025)*
- *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

- Private Cloud: Architected and maintained a private cloud environment using Proxmox VE, managing high-availability services via Linux Containers (LXC) and Virtual Machines.
- L2/L3 Networking: Configured traffic management on a Cisco 3750 switch and deployed Pi-hole for DNS-level traffic filtering and network-wide ad blocking.

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.

Ruby-Based Full-Stack Language Interpreter & Interactive TUI (CS 430), Harrisonburg, VA — Fall 2025

- Engineering: Engineered a custom language interpreter in Ruby using a recursive-descent parser to transform complex grammars into executable Abstract Syntax Trees (AST).
- Resilience: Implemented robust control-flow logic and scoped runtime environments, supporting function definitions and dynamic type-checking to ensure execution resilience.

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.
- 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 to deliver time-sensitive material inspections, adapting to changing site conditions and project requirements through iterative delivery.