

Hayden Murphey

804-629-9870 | hsmurphey@gmail.com | Richmond, VA
github.com/haydenmurphey | haydenmurphey.site (Portfolio) | linkedin.com/in/haydenmurphey

EDUCATION

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

Relevant Coursework: Distributed Systems, Operating Systems, Networks & Security, Database Systems, Algorithms, Software Engineering.

SKILLS

Languages: Java, Python, JavaScript, C, Rust, Ruby, Bash, PowerShell, HTML/CSS, SQL

Software Development: React, Next.js, Git, GitHub Actions, REST APIs, JSON/YAML, Agile (SCRUM), Object-Oriented Design, Unit Testing (JUnit, pytest)

Cloud & DevOps: AWS (ECS, ECR, VPC, S3, RDS, Lambda, SageMaker), Vercel, Terraform, Docker, CI/CD, Reverse Proxies (Caddy, Nginx)

Databases & Data: PostgreSQL, Supabase, MariaDB, SQL Server, Data Warehousing, NumPy, pandas

Networking & Security: Tailscale (VPN), Cisco IOS (L2/L3), IPS, TLS/SSL Management

Certifications & Professional Memberships:

- ❖ AWS Certified Solutions Architect – Associate (Issued Apr 2026)
- ❖ AWS Certified Cloud Practitioner (Issued Feb 2026)
- ❖ (ISC)² Certified in Cybersecurity (Issued Feb 2025)
- ❖ Machine Learning Specialization, Stanford University & DeepLearning.AI (Completed May 2026)
- ❖ Association for Computing Machinery (ACM), Member

TECHNICAL PROJECTS

Black Box – Full-Stack Language Interpreter & Terminal UI (Ruby) Feb 2025 – May 2025

- ❖ **Language Implementation:** Built an end-to-end interpreter in Ruby for a custom dynamically-typed language with a lexer, recursive-descent parser, and AST-based evaluator, supporting 15+ language features including conditionals, loops, and first-class functions.
- ❖ **Object-Oriented Design:** Applied the Visitor pattern to decouple the AST from its operations, enabling independent Translator (serialization) and Evaluator (runtime) implementations and reducing coupling for future language extensions.
- ❖ **Interactive Debugging UI:** Built a Curses-based terminal interface for live function testing and evaluator inspection, cutting debugging cycles from minutes to seconds via source-indexed error reporting.

Hybrid Cloud Platform & CI/CD Pipeline (AWS, Python, Terraform) January 2026 – Present

- ❖ **Full-Stack Microservice:** Designed a Python-based microservice with RESTful API endpoints, containerized with Docker to deliver identical behavior across local, staging, and production environments.
- ❖ **Automated CI/CD:** Engineered a GitHub Actions pipeline that runs the test suite, builds container images, and pushes zero-downtime rolling updates to AWS ECS Fargate, reducing deploy time from manual hours to under 5 minutes.
- ❖ **Infrastructure as Code:** Provisioned AWS VPCs, ECS clusters, and ECR repositories via Terraform, making the entire stack reproducible in a single command and eliminating configuration drift between environments.

Personal Homelab & Network Infrastructure (Docker, Linux) November 2025 – Present

- ❖ **Containerization & Automation:** Orchestrated a multi-container environment with Docker Compose, a Caddy reverse proxy, and automated TLS, achieving consistent uptime and one-command recovery via PowerShell-driven disaster recovery workflows.
- ❖ **Self-Hosted AI Service:** Deployed a local LLM inference server via Ollama, exposing a private network API that replaced reliance on external services and enabled offline experimentation with multiple open-weight models.

WORK EXPERIENCE

DataAnnotation – Software Validation & AI Trainer (contract) May 2025 – Present

- ❖ **Software Quality Engineering:** Validated AI-generated code against strict technical specifications across 200+ tasks, surfacing logic and edge-case failures that fed directly into model training to improve production output quality.
- ❖ **API Testing & Automation:** Developed Python scripts to test RESTful API integrations and edge-case behaviors, increasing coverage of agentic workflow failure modes and improving reliability of downstream model responses.
- ❖ **Containerized Test Environments:** Spun up disposable Docker environments to reproduce bugs and run regression tests across diverse codebases, enabling consistent fix validation regardless of language or framework.

Townes Site Engineering – Geotechnical Technician May 2021 – August 2025

- ❖ **Cross-Functional Collaboration:** Coordinated daily with field crews, lab staff, and project managers across 40+ projects, sharpening communication in a fast-paced, client-driven environment.
- ❖ **Data Management & Reporting:** Logged 10,000+ test specimens with strict accuracy across active projects, supporting on-time delivery of engineering reports to clients.