

Andrew Nguyen

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PROFESSIONAL SUMMARY

Software engineer with hands-on experience across embedded systems, Linux infrastructure, and CI/CD automation. Ported a real-time operating system onto embedded hardware for a naval shipbuilding program (HII Newport News), administered RHEL 8/9 identity and compliance environments, and built full-stack security tooling in Python. U.S. Citizen; open to relocation to Alexandria, VA.

TECHNICAL SKILLS

Languages:	Python · Bash · C · SQL · HTML · Java (coursework)
OS & Infrastructure:	Linux (RHEL, Ubuntu, Debian) · Proxmox VE · VMware · Docker / Docker Compose
DevOps & Tooling:	GitLab CI/CD · Git · Ansible · Nginx · Keycloak / LDAP SSO
Systems & Security:	RTEMS / embedded BSP · cross-compilation · Wazuh SIEM · vulnerability scanning
Databases:	PostgreSQL · MySQL · SQLite

EXPERIENCE

Software Engineer, Contract — Convergent Data LLC

Dec 2025 – Present & Dec 2023 – Dec 2024 • Subcontractor (clients: Taurus Telesys, HII Newport News)

- *Embedded (Dec 2025 – 2026)*: Ported RTEMS 6.2 as a hypervisor guest on the NXP QorIQ T4240 in support of a naval shipbuilding program (HII Newport News); wrote 68+ original BSP patches including a cache-coherency fix that unblocked guest boot after 40+ failed attempts, and scaled to 12+ simultaneous RTEMS partitions under the NXP Topaz hypervisor using an 8-stage GitLab CI/CD pipeline.
- *Security (2026)*: Designed and demonstrated a full-stack SIEM proof-of-concept (Wazuh + OpenSearch on Proxmox/LXC) for stakeholders evaluating a prospective TSA screening engagement — live intrusion simulation, a custom OpenSearch Dashboards plugin with signature-based and local-LLM log analysis, and a RAG pipeline (k-NN vector index) powering a natural-language "ask the logs" interface.
- *Security (2026)*: Built a Python web-probe tool (`http.client`) simulating SQL-injection, path-traversal, and sensitive-file access attempts to validate the SIEM's intrusion-detection rules; rebuilt three Mac Pro (2013) units into a 3-node Proxmox VE cluster (hardware teardown, ECC RAM and Xeon CPU upgrades) to host the lab.
- *Infrastructure (Dec 2023 – Dec 2024), client Taurus Telesys*: Administered RHEL 8/9 Red Hat Identity Management, Sonatype Nexus, Apache Guacamole, GitLab, and Docker; configured LDAP and Keycloak SSO across Proxmox, GitLab, and Portainer; wrote Python IDM compliance scripts; upgraded RHEL 8.8 → 8.10 and configured iptables and Nginx reverse-proxy for cross-system access.

CI/CD Engineer Intern — Analytica

Bethesda, MD • July 2022 – September 2022

- Built a GitLab CI/CD pipeline using GitLab Runner to automate deployment of scripts that launched Amazon EC2 instances.
- Provisioned and managed Proxmox virtual machines running CentOS and Ubuntu; used SSH for remote access and wrote Bash scripts for automated package installation.
- Worked with Python, Docker, Git, and Linux tooling across PowerShell, macOS Terminal, and VS Code environments.

PROJECTS

Cync Smart Plug Remote Control — *Python · TCP/SSL · Reverse Engineering*

- Built a zero-dependency Python HTTP server that authenticates to the GE Cync cloud API (email/password + 2FA) and controls smart plugs via the reverse-engineered binary TCP protocol (SSL, port 23779).
- Repurposed as a lab-automation tool to remotely power-cycle a T4240RDB embedded development board without physical access.

ISAC Voice Cloning — *Python · PyTorch · Coqui XTTS v2 · CUDA · Docker*

- Curated a 345-sample audio dataset processed to 22050 Hz WAV with pipe-delimited metadata for TTS fine-tuning.
- Fine-tuned the XTTS v2 text-to-speech model on an RTX 3070 (8 GB VRAM, CUDA 12.1); completed 410 training epochs with TensorBoard monitoring, reaching a final text loss of 0.0154.
- Resolved dependency conflicts across the Coqui TTS stack and built a Dockerized inference server for voice synthesis.

EDUCATION

Bachelor of Science in Computer Science

Southern New Hampshire University (Remote) • In progress

Associate of Science in Computer Science, with Honors

Southern New Hampshire University (Remote) • Conferred April 2026