

Natalie Spiva

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Senior Software Engineer & Linux Systems Architect

A highly motivated engineer with 16+ years of deep, hands-on experience in Linux system architecture, DevOps, and full-stack infrastructure management, **driven by a lifelong ambition since middle school and hands-on OS experience starting before age 8 (Ubuntu, CyanogenMod, TWRP)**. Seeking a senior role to leverage expert-level technical skills, proven project leadership, and **strong written communication** to build and scale robust, high-availability systems.

Summary of Qualifications

- **Proven Project Founder:** Architected, built, and currently lead AcreationOS, a public Linux distribution officially **validated and mirrored by the Oregon State University Open Source Lab (OSUOSL)**.
- **Expert-Level Systems Engineer:** Deep, low-level expertise in **custom kernel compilation, driver development, and porting operating systems to complex, modern architectures (Apple T2, ARM)**.
- **Modern DevOps Leader:** Successfully **migrated a full CI/CD pipeline from self-hosted GitLab to GitHub Actions**; expert in Kubernetes (K8s), Docker, Nginx, and cloud platforms (GCP/Azure).
- **Mature, Team-First Mentor:** Proven leadership with a 9-year community tenure, including mentoring technical users and **demonstrating a team-first mindset by stepping aside from an elected role to mentor a junior member**.

Core Technical Competencies

Expert-Level

- **Linux Systems:** Administration, Architecture, & Hardening (Arch, Gentoo, Ubuntu Server, RHEL, ARM)
- **OS & Kernel Development:** Custom Kernel Compilation, Driver Porting & Development, Power Optimization, Enterprise ISO Building (RedHat, Ubuntu, Rocky), Android (AOSP) & ChromeOS building, Apple T2 Porting
- **Languages:** Python, Shell Scripting (Bash)

- **Tools & Platforms:** Expert-level Git, GitHub/GitHub Actions, Docker, Podman, **Kubernetes** (K8s), KVM/QEMU, Linux Package Building (makepkg, dpkg-buildpackage, rpmbuild), **Windows Insider Program (Desktop & Mobile)**
- **DevOps & CI/CD:** CI/CD Pipeline Architecture, Nginx, Apache, Rsync, Self-Hosted Service Management (Nextcloud, XMPP, GitLab)

Proficient In

- **Cloud Platforms:** Google Cloud (GCP), Microsoft Azure
- **Databases & Caching:** PostgreSQL, Redis, Valkey
- **Languages:** C, C++, SQL, HTML/CSS, JavaScript
- **Frameworks & Toolkits:** Electron, GTK
- **Networking & Security:** PfSense, YubiKey/MFA, VOIP, TCP/IP, VPN, SSH, Remote Desktop (VNC, RDP)
- **Documentation:** ReadTheDocs, Jekyll, GitHub Pages

Specialized Competencies

- **Hardware & Diagnostics:** Desktop, Laptop, & Mobile Device Repair; BIOS/Firmware Flashing
- **Content & AI: YouTube Content Creation** (The Linux Tube, Natalie Spiva), Video Editing/Transcoding (ffmpeg), Image Editing (GIMP, Krita), Social Media Management, AI Prompt Engineering, Local AI Deployment (Ollama, HuggingFace), AI API Integration
- **Productivity:** Google Workspace, Microsoft Office Suite

Professional Experience

Founder, Lead Developer & Maintainer | AcreetionOS | Spokane, WA

(April 2024 – Present)

Architected, built, and currently maintain AcreetionOS, a public, Arch-based Linux distribution reviewed by tech publications and listed on DistroWatch. This role serves as the full-time culmination of 16+ years of systems engineering.

- **Project Leadership & Distribution:** Manage all aspects of the SDLC (Git, bug tracking, release scheduling). **Lead all technical documentation efforts, leveraging strong written communication skills to create and maintain the official project wiki on the ReadTheDocs platform.** Successfully established a formal partnership with the **Oregon State University Open Source Lab (OSUOSL)** to host and mirror official project ISOs. **Demonstrated strategic focus by retiring a secondary project (ArttuOS, a Rocky Linux derivative) to prioritize core AcreetionOS development.**
- **Community Leadership & Mentorship:** Act as a subject-matter expert and community educator. **Architected AcreetionOS as an educational distribution**

designed to teach Linux fundamentals to new users. Currently produce basic informational content (videos, documentation) to support this mission. Successfully mentored users in complex technical migrations (e.g., teaching a 56-year-old user to migrate from Linux Mint to Arch Linux). Actively manage the project's community presence, including running both official AcreetionOS Discord servers and administering an XMPP server dedicated to fostering an equitable community for users with diverse viewpoints; previously founded and ran the "Sprungles Software Shack" Discord. Maintain connections with leadership from other Linux projects (e.g., The Linux Cast, ZaneyOS), provide occasional assistance to separate community projects (e.g., StormOS), and leverage community resources like IRC for advanced technical support.

- **Full-Stack Infrastructure Management:** Single-handedly **design, build, deploy, and maintain** the entire production infrastructure. This includes:
 - o **Website:** Built the public-facing website (acreetionos.org) using **Jekyll**, hosted on **GitHub Pages**, and **secured/accelerated via Cloudflare**.
 - o **Servers:** Administer **Nginx** servers.
 - o **Repositories:** Manage **custom package repositories** (managing mirroring via **rsync** from internal servers to the OSUOSL). **Actively maintain self-hosted mirrors of the official Arch Linux repositories (Core, Extra, Multilib), the Arch User Repository (AUR), and Arch Linux ARM repositories to ensure stability and control over the package ecosystem.**
- **DevOps & CI/CD:** Engineered and deployed a real-time system monitoring solution (status.acreetionos.org). **Successfully migrated the project's entire CI/CD, source control, and package-building pipeline from a self-hosted GitLab instance to GitHub Actions.**
- **OS & Embedded Systems Development:** Perform custom Linux kernel compilation, power optimization, and driver development, building upon experience dating back to flashing CyanogenMod builds and porting TWRP recovery images pre-age 8. Currently leading a collaborative effort with a remote teammate to port AcreetionOS to the ARM architecture. Successfully ported AcreetionOS to 2018 Apple T2-based MacBooks, requiring integration of a custom-built kernel and packages from the T2Linux project (**including mirroring their Korean repository to local servers**) and creation of a dedicated OS flavour. Skilled in **building and maintaining custom Android ROMs (LineageOS)** from source, including porting to new devices, firmware extraction, and flashing. **Proficient in enterprise-level ISO building (Ubuntu, RedHat, Rocky Linux)** and Chromebook recovery/Linux installation.

- **Software Development:** Lead development for the flagship Cinnamon edition (Xorg/XLibre) and actively develop new features; strategically retired the GNOME edition to ensure maximum product stability and user experience. Develop desktop applications using GTK and Electron. Write and maintain core system packages using Python and Bash. **Experienced in compiling, building, and debugging large-scale C/C++ projects (e.g., Firefox, Chromium).**
- **System Administration:** Perform all kernel-level and system-level administration, security hardening, performance tuning, and **full system backup and recovery. Administer and maintain critical self-hosted services, with extensive experience managing Nextcloud (project-wide and private), VOIP/phone systems, and XMPP servers.**

Development Partner | XeroLinux | (Remote)

(Approx. 2017)

- Collaborated as a development partner on XeroLinux, an Arch-based Linux distribution, contributing to early project development and codebase. Gained foundational experience in collaborative open-source development, package management, and distribution building. **Departed project due to differing strategic visions and project directions.**

Night Auditor & On-Site Technical Support | Holiday Inn Express | Stillwater, OK

(April 2023 – April 2024)

Served as the lead technical point-of-contact, guest services professional, and sole night manager in a fast-paced hospitality environment.

- **Technical Support:** Acted as the sole on-site IT support for all hotel operations during overnight shifts. Troubleshoot and maintained the property's network infrastructure, front-desk/reservation systems, POS terminals, and all guest-facing technology.
- **Team Coordination:** Acted as the central communication hub during overnight shifts, coordinating with all hotel departments (housekeeping, maintenance, and management) to ensure seamless guest operations and issue resolution.
- **Problem Solving & Communication:** Managed all guest relations and service issues at the front desk, resolving complex billing and logistical issues with a high degree of professionalism and efficiency.
- **Night Audit & System Management:** Independently managed all night-audit shifts, ensuring 100% accuracy in financial reporting. Acted as the sole technical authority during these shifts, guaranteeing 24/7 system uptime.

- **Continuous Technical Development:** Utilized all downtime and breaks for self-directed learning and development; **contributed to "The Linux Tube" YouTube channel before launching and managing a personal tech channel ("Natalie Spiva")**, including all video editing, transcoding, and content creation, while simultaneously advancing software development projects.

Leadership & Community Experience

Oklahoma DeMolay | Stillwater, OK

(Member from age 12-21)

- **Executive Leadership:** Elected to **16 terms of local chapter leadership**, including 3 terms as **President (Master Councilor)**, 3 terms as **Vice President (Senior Councilor)**, and 7 terms as **Secretary (Chief of Staff)**. Managed all chapter operations, budgets, personnel, and public-speaking engagements. **Demonstrated exceptional resilience and recruitment skill by successfully onboarding 24 new members during a compressed 5-month presidential term amidst the COVID-19 pandemic.**
- **Public Relations & External Affairs:** Served as the **primary Public Relations lead for 8 years**, managing all chapter social media presence, external communications, and outreach efforts to partner organizations. **Excelled in written communication, crafting all official chapter correspondence and reports.**
- **Strategic Negotiation:** At age 13, **successfully negotiated a formal Memorandum of Understanding with Payne County Youth Services**, establishing a key strategic partnership for community service.
- **State-Level Recognition:** **Achieved the Degree of Chevalier**, the organization's highest honor for outstanding service and leadership. Recognized for leadership excellence and invited to join **Knighthood**, the state's elite leadership body.
- **Merit-Based Awards & Mentorship:** **Received the Master Councilor's Meritorious Service Award** for exceeding chapter goals. **Served for multiple years as the primary chapter mentor ("Memorization Coach")**, developing training programs and acting as the **central leadership figure and role model ("older sister")** looked up to by younger members. **Demonstrated mature, team-first leadership by stepping aside from an elected Vice Presidency to mentor a younger member into the role, ensuring their success.**

Education & Certifications

Meridian Technology Center | Stillwater, OK

- **Certification: Network & PC Support Specialist (4.0 GPA)**

- o *Coursework and certifications equivalent to CompTIA Network+.*