

Joshua Garcia Nieves

Cidra, Puerto Rico • imjoshuagarcia1212@gmail.com
yoshimaster.com • github.com/Y0shm4st3r • linkedin.com/in/joshua-garcia-nieves
Full version with complete contact details available on request.

PROFILE

Second-year Computer Engineering student seeking a summer internship or co-op in IT infrastructure, networking or systems. I run my home's infrastructure like production: a segmented network, two hypervisors, three ZFS pools and about twenty services my family depends on. I document every failure, including the ones I have not solved yet.

EDUCATION

B.S. Computer Engineering | Universidad Ana G. Méndez - Gurabo, PR

Aug 2025 - Present

TECHNICAL PROJECTS

Segmented Home Network (Homelab)

2024 - Present

- Designed a network segmented with 802.1Q VLANs (Servers, Home, Cameras) on a MikroTik managed switch, with a virtualized OPNsense firewall routing between them over a single trunk (router-on-a-stick).
- Wrote least-privilege inter-VLAN rules: cameras reach only the video server over RTSP and have no internet access.
- Routed a single host through a WireGuard VPN with policy-based routing, and verified the kill switch by taking the tunnel down and confirming no traffic leaked.
- Traced a console's loss of internet to a DNS entry in its DHCP reservation that matched the VPN gateway's monitor IP, which injected a /32 route into the tunnel; ruled out six hypotheses first.
- Restricted switch management (SSH/Winbox) to a dedicated management port and published self-hosted services through Cloudflare Tunnel.

Virtualization and Storage Server

2024 - Present

- Administer two Proxmox VE hosts running VMs and LXC containers, with GPU passthrough (RTX 3060) for real-time object detection in Frigate.
- Run TrueNAS SCALE with three ZFS pools, including a 4-disk RAIDZ2, shared over NFS; track disk health with SMART by world-wide name and scheduled scrubs.
- Configured Network UPS Tools across three machines so that on battery, VMs shut down before their hosts to protect ZFS pool integrity.
- Deployed about twenty Docker services (Immich, Nextcloud, Jellyfin, Frigate, Ollama), monitored per host with Netdata and Uptime Kuma.

Troubleshooting Log: "Where It Broke"

2026

- Logged over 170 incidents across my network, homelab and Linux machines, each tagged with the layer where the symptom appeared and the layer of the root cause, including the ones still open.
- Published a sanitized version on my portfolio; the full record with evidence and discarded hypotheses lives in a private repository.

3D Printer Firmware Rebuild

2026

- Compiled Marlin 2.1.4 from source for an STM32 board with a BLTouch probe; rebuildable from two configuration files, with the flashed binary traced by SHA-256 and the build timestamp the machine reports.
- Split a 1.938 mm bed error by least-squares plane fitting into correctable tilt and a 0.163 mm residual, turning a planned replacement into a free adjustment.

TECHNICAL SKILLS

- Networking:** 802.1Q VLANs & trunking, TCP/IP, OPNsense, MikroTik RouterOS, WireGuard, policy-based routing, NAT, DHCP/DNS (ISC DHCP, Unbound), Cloudflare Tunnel, Tailscale
- Systems:** Proxmox VE, LXC, Docker Compose, PCIe/GPU passthrough, Linux (Debian, Arch), Windows 10/11, systemd, Bash, Git
- Storage:** TrueNAS SCALE, ZFS (RAIDZ2, mirror), NFS, SMART disk health analysis
- Monitoring & Diagnostics:** Netdata, Uptime Kuma, NUT, smartctl, MTR, firewall log analysis
- Hardware & Firmware:** PC assembly, soldering, breadboarding, Marlin, PlatformIO, 3D printing (FDM), Fusion 360
- Other:** Python (learning), Microsoft Office, Google Workspace. Spanish (native), English (intermediate)

EXPERIENCE

Overnight Stocker | Walmart Supercenter - Cayey, PR

Jun 2023 - Present

- Restock and organize merchandise overnight in a high-volume store and correct inventory discrepancies, coordinating with the team to meet opening deadlines.

Kitchen / Production Team | Burger King - Caguas, PR

Nov 2020 - Apr 2021

- Prepared orders to quality and time standards in a fast-paced kitchen, following food safety protocols.