

Krutagna Patel

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DevOps / Cloud-Native Engineering Student

Computer Engineering student with **5+ years of hands-on Linux and self-hosted infrastructure experience**. Strong background in **Docker, Kubernetes (k3s), Helm, Linux system administration, networking (IPv4/IPv6), automation, and observability**. Experience in **self-hosted AI automation workflows using n8n, LLMs, and RAG systems**.

Technical Experience

AI Automation Intern - Instinkt Media (OPC) Pvt. Ltd.

Jun 2025 – Jul 2025

- Self-hosted and managed **n8n** for building AI-driven automation workflows.
- Developed a **text-based AI dental clinic assistant** using Large Language Models (LLMs).
- Implemented **Retrieval-Augmented Generation (RAG)** pipelines for contextual and accurate responses.
- Integrated and deployed **local LLMs using Ollama** for inference without cloud dependency.
- Worked on prompt design, workflow orchestration, API integrations, and automation logic.
- Gained hands-on experience deploying AI systems on Linux servers using containers.

Homelab & Self-Hosted Infrastructure

2021 – Present

- Designed, deployed, and operated a production-like homelab running **20+ Docker containers**.
- Self-hosted services including Jellyfin, Immich, Grafana, Prometheus, Uptime Kuma, Samba, Copyparty, and OpenSpeedTest.
- Implemented reverse proxying and HTTPS using **Caddy, Nginx**, integrated with **Cloudflare Tunnel** and Dynamic DNS.
- Built monitoring and observability stack using **Prometheus, Node Exporter, and Grafana dashboards**.
- Managed container health checks, restarts, backups, persistent volumes, and failure recovery.
- Implemented secure remote access using **Tailscale and Twingate (zero-trust networking)**.
- Designed and troubleshoot **IPv4/IPv6 dual-stack networking**, including SLAAC, DNS, and routing.
- Performed Linux system administration: systemd services, storage, networking, logging, and tuning.

Container Orchestration & Cloud-Native

- Deployed and managed Kubernetes clusters using **k3s**.
- Worked with core Kubernetes resources: Pods, Deployments, Services, Ingress, ConfigMaps, Secrets, and Volumes.
- Debugged pod failures, networking issues, and cluster misconfigurations.

Linux & NixOS

- Daily Linux user with experience across Debian-based systems and **NixOS**.
- Designed and maintained **declarative NixOS configurations** using flakes.
- Implemented reproducible system and development environments (infra-as-code).
- NixOS configurations and system modules: github.com/noobs1100/nixos

Projects

Campus Eats – Canteen Food Ordering App

- Built a food ordering application using **Python**, **MySQL**, and **Streamlit**.
- Implemented backend logic, order tracking, and **Razorpay payment integration**.

HackNuthon 4.0 – Laptop Price Comparison Website

- Developed a laptop price comparison platform using **JavaScript** and web scraping.

HackNITR 2.0 – Decentralized Storage Application

- Built a blockchain-based decentralized storage application in a team environment.

Technical Skills

Infrastructure & DevOps: Linux, Docker, Docker Compose, Kubernetes (k3s), Helm, Prometheus, Grafana, Caddy, Nginx, Cloudflare, Tailscale, Twingate

AI Automation & LLMs: n8n, Ollama, LLMs, Prompt Engineering, RAG Pipelines, API Integrations

Networking: IPv4, IPv6, DNS, SLAAC, Routing

Programming & Databases: Python, C, Rust, Java, JavaScript, MySQL

Tools & Practices: Git, GitHub, CI/CD fundamentals, REST APIs, System Troubleshooting

Education

Sardar Vallabhbhai Patel Institute of Technology, Vasad

Bachelor of Engineering – Computer Engineering

CPI: 8.00 / 10

2022 – Present

Parth School, Vadodara

Higher Secondary Certificate (HSC)

94 Percentile 84% PCM

2020 – 2022

Leadership & Activities

Community Manager – APEXIA - Managing community initiatives and events — bento.me/apexia

Joint Chief – ISTE (Prakarsh 2025)

Admin & Technical Volunteer – TEDxSVIT 2024