HARSHIT MANI TRIPATHI

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Summary

Linux-focused systems and infrastructure enthusiast with hands-on experience building and operating a Proxmox homelab**, automating infrastructure with OpenTofu**, and managing **networking** and DNS services. Experienced in production incident response and Root Cause Analysis (RCA) through CNCF SRE Games using observability tools and **Kubernetes**. Open-source contributor and active learner of operating systems and systems programming.

Projects

Linux Homelab Infrastructure | Oracle Cloud, Proxmox, Linux, Networking, OpenTofu

- Designed and operates virtualized Linux infrastructure using Proxmox VE and multiple VMs.
- Built DNS stack (Pi-hole, Unbound) and configured firewall routing with OPNsense.
- Managing cloud and **network infrastructure** using OpenTofu (Cloudflare, OCI).
- Developing automated VM provisioning and configuration workflows (automation, reproducibility).
- Focus on **Linux systems administration, networking, and infrastructure reliability**.

Production Incident Response - CNCF SRE Games | Kubernetes, Observability, Linux

- Performed **real-time incident response** and Root Cause Analysis (**RCA**) on production-like Kubernetes workloads.
- Diagnosed service failures using **metrics, logs, and traces** with Dynatrace, Dash0, and Randoli.
- Debugged distributed systems using kubectl and monitoring dashboards.
- Investigated downtime and implemented recovery strategies under time constraints.

Open Source Contribution - Linkme SSG | Go, CI/CD, GitHub Actions

- Contributed features to a Go-based static site generator in an existing production codebase.
- Implemented web analytics integration (Google Analytics, GoatCounter).
- Added UI enhancements and CSS improvements.
- Built GitHub Actions workflow for automated deployment to GitHub Pages.
- Collaborated via pull requests with changes merged upstream.

Technical Writing

Networking Series | Systems and Network Fundamentals

- Published 6 articles explaining networking concepts including DNS, protocols, and system communication.
- Covered practical networking behavior and infrastructure-level concepts

Git Series | Version Control Internals and Workflows

- Wrote a 3 part series covering Git fundamentals, workflows, and internal architecture.
- Explained repository structure, object model, branching, and version control concepts.

Skills

Infrastructure & IaC: Kubernetes, OpenTofu, Terraform, Ansible, Docker, GitHub Actions, CI/CD
Cloud Platforms: Google Cloud Platform, Cloudflare, Oracle Cloud Infrastructure, HashiCorp Cloud
Observability & Operations: Grafana, Loki, Tempo, Dynatrace, Dash0, Kubectl, RCA, Incident Response
Networking: TCP/IP, DNS, Routing, Firewalls, OPNsense, Traefik, Caddy, Mesh VPNs
Operating Systems: Linux, Debian, RHEL, Proxmox VE
Languages: Go, Python, Bash, JavaScript, C

Education

Bachelor of Technology - Computer Science Engineering (Data Science)   2024 - 2028
Noida International University   Pursuing

Senior Secondary (Class XII)   2024
Central Board of Secondary Education