

# HARSHIT MANI TRIPATHI

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[GitHub](#)

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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

**Operating Systems:** Linux (Debian), Proxmox VE

**Infrastructure:** OpenTofu, IaC, GitHub Actions, CI/CD

**Networking:** TCP/IP, DNS, Routing, Firewalls, OPNsense, Mesh VPNs

**Observability:** RCA, incident response, Dynatrace, Dash0, Randoli, Kubectl

**Cloud:** Cloudflare, OCI, Kubernetes

**Languages:** Go, Python, C, JavaScript

## Education

### **Bachelor of Technology - Computer Science Engineering (Data Science)**

Noida International University

2024 - 2028

Pursuing

### **Senior Secondary (Class XII)**

Central Board of Secondary Education

2024