

# 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

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### 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

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### 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

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**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

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

Noida International University

2024 - 2028

Pursuing

**Senior Secondary (Class XII)**

Central Board of Secondary Education

2024