

SHRI HARSHA KULKARNI

Backend Systems · Distributed Systems · Cloud Infrastructure

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SUMMARY

Backend engineer with 5+ years of experience building distributed services and cloud infrastructure with a focus on reliability and observability. Designed health-probing and metrics systems for high-scale network enforcement nodes at Zscaler, and built autonomous data pipelines processing 100K+ malware samples on GCP. Supporting experience in RAG/LLM tooling and AI-powered threat intelligence. Two-time hackathon winner (including Crucible 2.0 – Darkfire).

EXPERIENCE

Zscaler | Staff Software Engineer

March 2026 – Present

ZIA (Zscaler Internet Access) · AWS Infrastructure

- Contributed to backend infrastructure for Zscaler enforcement nodes on AWS, ensuring the systems that process traffic flows and apply security policies are reliable and observable at scale.
- Designed active health probing for load-balancer dependencies in an Open vSwitch controller, discovering targets from fabric config and converting silent failures into immediate signals.
- Built service-level health aggregation that honestly reports partial failures (up / down / degraded) instead of binary all-or-nothing status, improving operational visibility.
- Implemented production observability by exposing multi-layer metrics (traffic, flow counters, and controller health) so dashboards and alerting reflect live system state without unbounded memory growth.

Palo Alto Networks | Staff Engineer

August 2022 – February 2026

WildFire Malware Detection Platform

- Designed and deployed an autonomous malware collection pipeline on GCP (Cloud Run, Pub/Sub, BigQuery) that processed 100K+ malware samples and powered downstream analytics.
- Built real-time data pipelines integrating BigQuery and Looker Studio for malware trend analysis and operational visibility across the WildFire platform.
- Developed an internal RAG-based engineering assistant using LLaMA 2, Ollama, and ChromaDB to accelerate troubleshooting and knowledge retrieval.
- Led security enhancements including SAML vulnerability remediation and secret-management implementation; migrated services from CentOS to Ubuntu for improved security posture.
- Owned proactive customer incident management and on-call support for production reliability.

Parallel Wireless | Data Engineer

December 2021 – July 2022

- Built Grafana dashboards querying ClickHouse and Prometheus for real-time alert monitoring across the data platform.
- Converted the Install/Upgrade codebase from Bash to Python using the Kubernetes client library, improving reliability of cluster operations.
- Resolved critical production bugs on the internal IOND platform and delivered features involving ClickHouse and data processing pipelines.

Anuta Networks | Software Engineering Intern

July 2021 – November 2021

- Built core functionalities for ATOM network automation platform with hands-on use of Docker, Kubernetes and Jenkins.

TECHNICAL SKILLS

Programming	Python (advanced), Go, C, Data Structures & Algorithms
Cloud & Distributed Systems	GCP (Cloud Run, Cloud Functions, BigQuery, IAM, Compute Engine), AWS, Kafka, Pub/Sub, Docker, Kubernetes, Distributed Systems
Backend & Observability	Prometheus, Grafana, Health Probing, Metrics Design, Service Reliability, REST APIs
Networking & Systems	Open vSwitch (OVS), OSI model, TCP/IP, HTTP, Linux (Ubuntu)
Security & AI	RAG pipelines, LLaMA 2 (Ollama), ChromaDB, Threat Intelligence tooling, Secret Management, Burp Suite, GitGuardian
Data & Tools	BigQuery, ClickHouse, MySQL, Looker Studio, Git, GitLab, Bitbucket, JIRA, Confluence, Postman

EDUCATION

Bachelor of Engineering (Computer Science) · K.S. Institute of Technology · CGPA 7.5 · Completed 2021

ACHIEVEMENTS

- Winner – Crucible 2.0 (Palo Alto Networks India Hackathon): Built Darkfire, a dark web threat-intelligence tool powered by LLMs for real-time monitoring and analysis.
- Winner – AI Mastermind Challenge (Palo Alto Networks Hackathon): Built an AI-powered social media analytics platform.