Lalitha Samyuktha Jayanthi

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Value Proposition

Data Science graduate with a strong foundation in cloud computing, infrastructure automation, and site reliability engineering principles. Passionate about designing resilient distributed systems using Google Cloud and IaC tools like Terraform. Eager to thrive in fast-paced, problem-solving teams to deploy and operate large-scale systems across compute, storage, networking, and AI/ML domains. Skilled in Python and SQL for scripting and monitoring.

Education

- B. Tech | CSE-Data Science | Avanthi Institute of Engineering and Technology | 2025 | 7.88 CGPA
- Intermediate | Sri Chaitanya Jr. College | 2021 | 9.12 CGPA
- Tenth | Sri Chaitanya School | 2019 | 9.5 CGPA

Technical Proficiencies

- Cloud Platforms: Google Cloud Platform (GCP), Terraform (IaC)
- Containerization & Orchestration: Kubernetes, Docker, Microservices
- Networking & Security: PKI, Service Mesh (Istio), TCP/IP, Firewalls, VPC
- Systems Administration: Linux (Ubuntu/CentOS), Bash/Python Scripting, Automation
- SRE Tools: Monitoring (Prometheus, GCP Operations), Scalability, Reliability Engineering
- Programming: Python, SQL, PySpark
- Other: Distributed Systems, AI/ML Environments, Problem-Solving, Collaboration.

Projects

Scalable Microservices Platform on Google Cloud with Terraform

- Designed and deployed a distributed microservices application on Google Cloud Platform (GCP), managing compute, storage, and networking resources for an AI/ML recommendation system .
- Utilized Terraform for Infrastructure as Code (IaC) to automate provisioning of GCP resources like Virtual Machines, Cloud Storage, and VPC networks, reducing deployment time by 40% and ensuring scalability.
- Implemented reliability features including auto-scaling groups and intelligent monitoring with GCP Operations Suite, demonstrating an SRE mindset focused on automation and high availability.
- Technologies: Google Cloud, Terraform, Python, SQL.

Kubernetes-Based Container Orchestration System with Service Mesh

- Built and operated a containerized e-commerce application using Kubernetes and Docker, orchestrating microservices across a cluster of 5 nodes to handle traffic spikes and ensure zero-downtime deployments.
- Integrated Istio as a service mesh for secure traffic management, implementing mutual TLS with PKI certificates to enhance security and observability in a distributed environment.
- Collaborated with a team of 3 to troubleshoot networking issues, including DNS resolution and ingress routing.
- Technologies: Kubernetes, Docker, Istio (Service Mesh), PKI, Python.

Linux Systems Administration and Networking Automation Tools

- Developed a Linux-based automation script for managing distributed systems on Ubuntu servers, including user management, file system monitoring, and network configuration for a simulated multi-node cluster.
- Implemented PKI for secure authentication and encryption, integrating with OpenSSL to generate and manage certificates for inter-service communication.

- Focused on SRE principles by scripting automated backups, log rotation, and performance monitoring with tools like Prometheus, enhancing scalability and reducing manual intervention by 50%.
- Handled networking tasks such as firewall rules (iptables), VLAN setup, and TCP/IP optimization to support high-throughput AI/ML workloads.
- Technologies: Linux (Ubuntu), Bash/Python Scripting, PKI, Networking Protocols, Prometheus.

Real-Time Data Processing Pipeline with Reliability Focus

- Engineered a resilient data pipeline on Google Cloud for processing streaming data in an AI/ML environment, using BigQuery and Pub/Sub for storage and messaging.
- Applied SRE best practices by incorporating error-handling, retry mechanisms, and automated scaling to maintain reliability under variable loads.
- Containerized the application with Docker and deployed to Kubernetes Engine (GKE), including basic service mesh configurations for traffic control.
- Achieved 30% improvement in processing efficiency through optimized networking and automation scripts.
- Technologies: Google Cloud, Kubernetes, Docker, Python, PySpark, SQL.

Internships & Simulations

- AI Intern – AIMER Society | 8 Weeks
- ML Intern – Indian Servers | 8 Weeks
- Data Science Intern – Yhills | 8 Weeks
- Data Science Intern – Prodigy | 4 Weeks
- Job Simulation – TCS | Forage Plat form

Certifications

- Google Cloud Associate Cloud Engineer
- Infosys Springboard certification in Software Engineering and Agile development.
- Google Cloud Gen AI.
- Data Analytics by Jobaaj Learnings.
- SQL by Oracle.
- Java by Oracle.