Amogha Rao K

Bangalore – India

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Summary

Cloud Engineer with **3 years of experience** building secure, scalable Kubernetes platforms and backend services. Expertise in **FastAPI, CI/CD automation, cloud-native security, observability, and identity platforms** across distributed systems.

Education

National Institute of Engineering, Mysore — **India**

Bachelor of Engineering in Information Science — *2018 – 2022*

Relevant Coursework: Object Oriented Programming, Databases, Data Structures and Algorithms, Operating Systems, Computer Networks, Advanced Data Structures and Algorithms

Skills

- **Programming Languages:** Python, Bash
- **Backend Engineering:** Flask, FastAPI
- **Cloud & Platforms:** AWS (EC2, SQS, RDS), Kubernetes, Docker
- **CI/CD & DevOps:** GitHub Actions, ArgoCD, Helm Charts
- **Security & IAM:** HashiCorp Vault, Open Policy Agent (OPA), Keycloak, Squid Proxy
- **Monitoring & Observability:** Prometheus, Grafana, OpenTelemetry, SigNoz, Logz.io, OpsRamp

Experience

Cloudera — **Bangalore, India**

Software Engineer — *Mar 2025 - Present*

- Migrated backend services from **Flask to FastAPI**, leveraging **async/await** for non-blocking I/O, along with **Pydantic** validation and **Redis** caching to improve performance and reliability.
- Optimized database performance using **window functions**, conditional aggregation, and **bulk inserts**, cutting latency to seconds and **RDS CPU to less than 20%**.
- Designed and implemented a **centralized authentication gateway** enabling microservices to onboard via **Nginx Ingress annotations**, integrated with **Keycloak** and **Okta**.
- Enabled distributed tracing and service-level observability by integrating **SigNoz**, leveraging its built-in **OpenTelemetry**-based instrumentation.

Hewlett Packard Enterprise — **Bangalore, India**

Cloud Developer — *Sep 2022 - Mar 2025*

- Enforced Kubernetes security standards using **Open Policy Agent (OPA)**, preventing privileged containers and insecure image usage.
- Designed an event-driven secret management pipeline using **GitHub Actions**, **AWS SQS**, Kubernetes, and **HashiCorp Vault**, implemented via a Python-based listener running as a pod.
- Built a Kubernetes event processing pipeline handling **1,000+ kube events/sec**, exporting metrics to Prometheus.
- Managed centralized log ingestion across **2,000+ edge locations**, implementing **custom rate limiting** to control bandwidth using FluentD custom plugins.
- Migrated CI/CD pipelines from CircleCI to GitHub Actions, reducing deployment time by **30%**.
- Reduced Docker image sizes by **60%** using multi-stage builds.
- Automated monitoring agent deployments using a **custom Python Kubernetes operator and Ansible**, reducing onboarding time by **50%**.

Projects

Web App Projects: **Python, Flask, docker, Machine Learning** — GitHub

Developed a machine learning–powered cloud web application using **Random Forest** to forecast crop yields based on soil type, climate, and land area, with a Flask-based interface deployed on Heroku.

Achievements & Certifications

- 1st Prize — Best Innovation, Information Science Department (Agriculture Price Management Project)
- Algorithmic Toolbox — Coursera
- AWS Cloud Technical Essentials — Coursera
- HackerRank HackerFest Challenge — Global Rank: 5,457
- Hackathon contributor to **Telaas**, a Go-based "Open Telemetry as a Service" library enabling API/infra observability pipeline generation (libraries.io).