

Anvesh Routhu

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SUMMARY

Senior Software Engineer with over 9 years of experience in building and scaling cloud-native applications, DevOps pipelines, and AI-powered solutions. Skilled in architecting scalable AWS and Kubernetes infrastructures, automating CI/CD pipelines, and driving system modernization. Recently focused on building AI-powered solutions, intelligent agents, and recommendation systems using MCPs and modern llm frameworks. Adept at bridging software engineering and DevOps to deliver reliable, future-ready platforms.

WORK EXPERIENCE

Senior Software Engineer, PowerSchool India Pvt. Ltd

Oct 2023 - Present

- **Ed-Tech Platform** – Been a Platform engineer and Cloud engineer for different products having focus on development and migration for internal AI solutions across organizational use.
 - Developed, and maintained a high-traffic web application actively used by millions of users, ensuring high performance, reliability, and scalability.
 - Implemented semantic and neural search mechanisms with AWS serverless opensearch over a data set of 2 Million resources.
 - Implemented GitOps workflows with GitHub Actions and Argo CD for micro-services, distributed across GitHub, to streamline deployments in Kubernetes.
 - Developed Gen AI solutions, by creating MCP (Model Context Protocol) for AWS resource management integrated with GitHub Copilot.
 - Integrated AWS DynamoDB as the core database, replacing a self-managed MongoDB solution to improve scalability, reduce maintenance overhead, and improve data resilience.
 - Designed, deployed and managed a large-scale cloud infrastructure across multiple AWS environments, ensuring high availability and fault tolerance using Terraform for Infrastructure as Code (IaC) with Terragrunt wrapper.
 - Implemented AWS CloudWatch monitoring and alerting, enabling proactive detection of performance issues and ensuring high availability across critical services.
 - Developed Slack chatbot applications integrated with core application microservices in Kubernetes, automating preliminary investigation and monitoring tasks.
 - Built and administered Amazon EKS (Elastic Kubernetes Service) clusters, integrating and deploying key solutions such as Elasticsearch, MongoDB, Prometheus, and Grafana to ensure seamless application monitoring and logging.

Lead Engineer, Prodapt solutions

Apr 2022 - Oct 2023

- **Telecommunication Platform** – Focused on enhancing large-scale network infrastructure to deliver seamless connectivity, media delivery, and customer experiences across global markets.
 - Maintained a large-scale on-premises infrastructure, managing physical servers and VMs with Ansible to ensure smooth, automated operations.
 - Managed a robust network domain infrastructure that supports high-load, customer-facing applications, using Kafka clusters and advanced monitoring solutions to handle substantial network traffic and data flow.

- Integrated Prometheus and Grafana for real-time monitoring and alerting of system health, ensuring proactive issue detection and minimal downtime across production environments.
- Been on-site client support in Amsterdam, the Netherlands, taking over a critical product for Devops and monitoring project.
- Set up SumoLogic and Datadog monitoring for real-time application and infrastructure insights, enhancing system observability and proactive issue resolution
- Created and optimized GitLab CI pipelines for deploying web services on Docker Swarm clusters, streamlining the CI/CD process.

DevOps Engineer, Tarams Software Technologies Pvt Ltd

Apr 2021 - Mar 2022

- **Blockchain Platform** – Focused on building reliable infrastructure and automation for application enabling users to leverage blockchain technology for secure coin sales and transactions.
 - Led product development from initial stages through the alpha release of a proprietary application called Applogz, ensuring robust infrastructure and operational readiness.
 - Managed and maintained Bamboo CI nodes for continuous integration and deployment pipelines, using Chef to automate configuration and ensure consistency across environments.
 - Conducted end-to-end testing with relevant Codeception framework for application to validate the migration, ensuring minimal downtime and seamless user experience during the database transition.
 - Created and implemented Ansible scripts to automate application deployment and upgrades, significantly reducing administrative overhead and manual effort.
 - Collaborated with cross-functional teams to ensure security and compliance.

Software Engineer, (Attrra, a Synechron Company)

Dec 2015 - Mar 2021

- **FinTech Service Platform** – Started as a Junior Software Engineer and grew into a Software Engineer, contributing to Python application development for core fintech services. Worked extensively on analyzing user transaction data to improve financial workflows, accuracy, and system efficiency.
 - Developed and maintained Python modules to support core financial workflows, focusing on transaction handling and data validation.
 - Wrote unit tests and debugging scripts to ensure code reliability, improve data accuracy, and support production issue resolution.
 - Deployed and managed Helm charts to streamline Kubernetes application delivery; implemented both automated and manual deployment strategies across multiple EKS clusters, improving deployment reliability and consistency.
 - Developed and maintained Python backend scripts to support core application services, ensuring high accuracy in data processing and transaction workflows.
 - Jenkins setup for CI, provisioning and managing on-prem, cloud Linux servers.
 - Tuned software features to meet specific customer demands and hardware limitations.
 - Optimized SQL queries and back-end logic to handle large financial datasets, enhance application performance, and reduce query response times.

EDUCATION

2011 - 2015 **Bachelor of Engineering in Computer Science Anurag University, Hyderabad.**

PERSONAL PROJECTS AND BLOGS

Portfolio App	r-anvesh.github.io Bootstrapped web application
Semantic Search Implementation	Medium Blog Building a Semantic Search Engine with OpenSearch: A Complete Guide
Readonly AWS MCP Server	aws-mcp-server Developed a local secure, read-only AWS MCP server for organization-wide use.

SKILLS

Cloud Platforms	AWS,Azure
Infrastructure as Code (IaC)	Terraform, CloudFormation
Messaging Queues	Apache Kafka
Orchestration	Kubernetes, Amazon EKS, Helm, Helmfile
Configuration Management	Chef, Ansible
CI/CD Pipelines	Bamboo, Jenkins, GitLab CI
GitOps	GitHub Actions, ArgoCD
Monitoring & Observability	Prometheus, Grafana, Elasticsearch, Kibana, OpenSearch, Datadog
Version Control	Git, GitHub, GitLab, BitBucket
Automation & Scripting	Bash, Python, PowerShell
Databases	MongoDB, DynamoDB, MySQL, PostgreSQL
GenAI	Agent creation, Model Context Protocol (MCP), building custom AI agents, integrating GenAI in cloud workflows