Harsha Vardhan Yellela

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SUMMARY

DevOps Engineer with hands-on experience in **Kubernetes orchestration**, **CI/CD pipeline development**, and **Infrastructure as Code (Terraform, CloudFormation)**. Proficient in **Docker containerization**, **AWS cloud services (EKS, ECS, Lambda)**, and **monitoring solutions (Prometheus, Grafana)**. Built production systems with **autoscaling (HPA)**, **circuit breaker patterns**, and **8-microservice architectures**. Strong foundation in **automation**, **GitOps workflows**, and **reliability engineering**.

EXPERIENCE

Graduate Research Assistant – Agentic AI **Jan 2025 – Dec 2025**
Lawrence Technological University *Southfield, MI*

- Deployed persistent **backend services** on **AWS Fargate** and **Amazon EKS**, managing container orchestration and service mesh configurations.
- Configured **OpenSearch Serverless** clusters for semantic search, implementing **auto-scaling policies** and **access control**.
- Built **CI/CD pipelines** for multi-agent systems using **GitHub Actions**, achieving **70% reduction in deployment time**.

Infor India Pvt. Ltd. **Apr 2022 – Dec 2023**
LN Technical Consultant *Hyderabad, India*

- Integrated **AWS S3, Lambda, and API Gateway** with **Infor ION** process flows for asynchronous file transfer and event-driven automation.
- **Containerized** business logic services using **Docker** and simulated **Kubernetes-like orchestration** with enterprise systems.
- Developed **automation scripts** for global clients (**Ferrari, Boeing, Triumph**), reducing **batch processing delays by ~40%**.

TECHNICAL SKILLS

- **Container Orchestration:** Kubernetes (EKS), Docker, Docker Compose, Helm | HPA, PVC, Deployments, Services
- **CI/CD:** Jenkins (Multibranch Pipelines), GitHub Actions, GitOps | Automated Testing, Deployment Strategies
- **Infrastructure as Code:** Terraform, AWS CloudFormation, AWS CDK | State Management, Modular Configurations
- **Cloud (AWS):** EKS, ECS Fargate, Lambda, EC2, API Gateway, S3, DynamoDB, ECR, SQS, SNS, ALB
- **Monitoring & Observability:** Prometheus, Grafana, CloudWatch | Metrics, Alerting, Dashboards, Log Aggregation
- **Scripting & Languages:** Bash, Python, Go, YAML | Shell Scripting, Automation, Configuration Management
- **Reliability Patterns:** Circuit Breaker, Health Checks (Readiness/Liveness), Auto-scaling, Spot Instances
- **Practices:** GitOps, Agile/Scrum, Infrastructure Automation, Security Best Practices, Cost Optimization

PROJECTS

ML Sentiment Feedback Loop – Production MLOps Microservices **Dec 2025**
Terraform, GitHub Actions, AWS (ECS Fargate, SageMaker, ECR), Docker | GitHub

- Built **8-microservice architecture** with **independent scaling** on **AWS ECS Fargate**, implementing **API Gateway** for unified routing.
- Configured **GitHub Actions CI/CD** with **Terraform IaC** for automated infrastructure provisioning and container deployments to **ECR**.
- Designed **auto-deployment pipeline** (training → model registry → production) with **SNS notifications** and **SageMaker integration**.

Online Learning Portal – Microservices CI/CD Platform **Nov 2025**
Jenkins, Docker, Kubernetes, AWS (ECS Fargate, ECR, ALB) | GitHub

- Implemented **Jenkins Multibranch Pipeline** with **branch-per-service CI strategy**, enabling independent Docker builds for **6 microservices**.
- Created **unified CD pipeline** for **EKS deployment** with **LoadBalancer service** configuration and **automated Docker builds** with commit hash tagging.
- Designed **Kubernetes manifests** for all services with **webhook automation** for continuous integration triggers.

Telegram Toxicity Moderator – Production K8s ML Platform **Oct 2025**
Kubernetes (EKS), Prometheus, Grafana, FastAPI, HPA, ALB | GitHub

- Deployed **ML inference service** on **AWS EKS** with **Horizontal Pod Autoscaler (HPA)** achieving **500 RPS average, 1500 RPS peak** capacity.
- Implemented **circuit breaker pattern** (5 failures, 30s recovery window) with **readiness/liveness probes** for production reliability.
- Created **Prometheus metrics** and **Grafana dashboards** for real-time monitoring; reduced costs **70%** with **spot instances** and aggressive scale-down.

Car Dealer App – Full-Stack Kubernetes Application **Oct 2025**
Kubernetes, Docker, PostgreSQL, Flask, Nginx | GitHub

- Configured **3-tier Kubernetes architecture** with **Deployments, Services, PersistentVolumeClaims** and **2 replicas** for high availability.
- Implemented **readiness/liveness probes** for health monitoring and **LoadBalancer service** for external traffic routing.
- Wrote comprehensive **shell scripts** for **deployment automation** including build, push, and rollout commands.

Job Portal REST API – Containerized Cloud Deployment **Oct 2025**
Docker, Docker Compose, AWS ECS/ECR, FastAPI, GitHub Actions | GitHub

- **Containerized** application using **Docker** and **Docker Compose** with **persistent named volumes** for data durability across restarts.
- Deployed to **AWS cloud infrastructure** using **ECR** for container registry and **ECS** for orchestration with end-to-end **CI/CD pipeline**.
- Built **production-ready API** with **25+ endpoints**, comprehensive **OpenAPI/Swagger documentation**, and **shell scripting automation**.

Lambda Microservices Platform – Serverless Infrastructure **Dec 2024**
AWS Lambda, Terraform, CloudFormation, DynamoDB, API Gateway, S3

- Developed and deployed **94 AWS Lambda functions** for complete SaaS platform using **Terraform** and **CloudFormation** templates.
- Built **automated deployment pipeline** with **Git change detection**, deploying only modified functions to reduce deployment time.
- Configured **API Gateway** with Lambda integrations, **DynamoDB streams**, and **S3 event triggers** for event-driven architecture.

EDUCATION

Lawrence Technological University **Jan 2024 – Dec 2025**
*Master of Science in Computer Science · GPA: **3.6/4.0*** *Southfield, MI*

- **Relevant Coursework: Cloud Microservices**, **Machine Learning**, **Artificial Intelligence**, **Intelligent Robotics (ROS)**

Geethanjali College of Engineering & Technology **Aug 2018 – Aug 2022**
*Bachelor of Technology in Computer Science & Engineering · GPA: **7.5/10 (~3.0/4.0)*** *Hyderabad, Telangana*

- **Relevant Coursework: Software Engineering**, **Operating Systems**, **Computer Networks**, **Database Management**

ACHIEVEMENTS

- **Selected for Amazon Nova AI Challenge: Trusted AI Track** (2025)
- **Built production SaaS platform** with 94 Lambda functions and Terraform IaC serving real customers (2024)
- **Gold Medalist in Indian National Mathematical Olympiad (INMO)** (2012)