

# 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

<b>Graduate Research Assistant – Agentic AI</b> <i>Lawrence Technological University</i>	<b>Jan 2025 – Present</b> <i>Southfield, MI</i>
<ul style="list-style-type: none"><li>Deployed persistent backend services on AWS Fargate and Amazon EKS, managing container orchestration and service mesh configurations.</li><li>Configured OpenSearch Serverless clusters for semantic search, implementing auto-scaling policies and access control.</li><li>Built CI/CD pipelines for multi-agent systems using GitHub Actions, achieving 70% reduction in deployment time.</li></ul>	
<b>Infor India Pvt. Ltd.</b> <i>LN Technical Consultant</i>	<b>Apr 2022 – Dec 2023</b> <i>Hyderabad, India</i>
<ul style="list-style-type: none"><li>Integrated AWS S3, Lambda, and API Gateway with Infor ION process flows for asynchronous file transfer and event-driven automation.</li><li>Containerized business logic services using Docker and simulated Kubernetes-like orchestration with enterprise systems.</li><li>Developed automation scripts for global clients (Ferrari, Boeing, Triumph), reducing batch processing delays by ~40%.</li></ul>	

## 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

<b>Telegram Toxicity Moderator – Production K8s ML Platform</b> <i>Kubernetes (EKS), Prometheus, Grafana, FastAPI, HPA, ALB   GitHub</i>	<b>Oct 2024 – Nov 2024</b>
<ul style="list-style-type: none"><li>Deployed ML inference service on AWS EKS with Horizontal Pod Autoscaler (HPA) achieving 500 RPS average, 1500 RPS peak capacity.</li><li>Implemented circuit breaker pattern (5 failures, 30s recovery window) with readiness/liveness probes for production reliability.</li><li>Created Prometheus metrics and Grafana dashboards for real-time monitoring; reduced costs 70% with spot instances and aggressive scale-down.</li></ul>	
<b>ML Sentiment Feedback Loop – Production MLOps Microservices</b> <i>Terraform, GitHub Actions, AWS (ECS Fargate, SageMaker, ECR), Docker   GitHub</i>	<b>Nov 2024 – Present</b>
<ul style="list-style-type: none"><li>Built 8-microservice architecture with independent scaling on AWS ECS Fargate, implementing API Gateway for unified routing.</li><li>Configured GitHub Actions CI/CD with Terraform IaC for automated infrastructure provisioning and container deployments to ECR.</li><li>Designed auto-deployment pipeline (training → model registry → production) with SNS notifications and SageMaker integration.</li></ul>	
<b>Online Learning Portal – Microservices CI/CD Platform</b> <i>Jenkins, Docker, Kubernetes, AWS (ECS Fargate, ECR, ALB)   GitHub</i>	<b>Oct 2024 – Nov 2024</b>
<ul style="list-style-type: none"><li>Implemented Jenkins Multibranch Pipeline with branch-per-service CI strategy, enabling independent Docker builds for 6 microservices.</li><li>Created unified CD pipeline for EKS deployment with LoadBalancer service configuration and automated Docker builds with commit hash tagging.</li><li>Designed Kubernetes manifests for all services with webhook automation for continuous integration triggers.</li></ul>	

**Lambda Microservices Platform – Serverless Infrastructure***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.

**Car Dealer App – Full-Stack Kubernetes Application****Oct 2024***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 2024 – Present***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**.

**EDUCATION****Lawrence Technological University****Expected 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****Graduated: August 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)