Venkata Karthik Draksharam

Generative AI professional and Systems Engineer

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• https://venkatakarthik0211.github.io/docs/resume2_2.pdf

Experience

DevOps/GenAI Engineer   **Jun 2024 – PRESENT**

EPAM Systems, Inc.

- Developing and deploying AI/ML solutions using Langchain and LangGraph, with expertise in prompt engineering and NLP.
- Implementing multi-cloud infrastructure on AWS and Azure through Infrastructure as Code using Terraform and Kubernetes.
- Building and maintaining CI/CD pipelines with Jenkins, following DevOps best practices for automated deployments
- Creating interactive web applications using Streamlit and REST APIs for enhanced user experience
- Ensuring code quality and reliability through systematic unit testing and quality assurance processes
- Fostering effective stakeholder communication and cross-functional collaboration in agile environments

Cyber Security – Red Team

Andhra Pradesh Technology Services (apts-lor.pdf)   **Jan 2024 – Jun 2024**

- Engineered microservice-based automation tool for JavaScript reconnaissance across domains.
- Implemented SAST workflows and container security measures with DevSecOps Best Practices.
- Conducted comprehensive VAPT assessments and security audits on enterprise web applications.

Cloud Intern – Research & Development

Rashtriya Ispat Nigam Ltd (cert-rinl.pdf)   **Jun 2023 – JUL 2023**

- Architected serverless QR-based Yard Management System leveraging AWS services.
- Developed Android mobile application integrating cloud services for real-time yard operations.
- implemented CI/CD pipeline using GitHub for automated deployment and version control.

Researcher

Centre of Excellence in cybersecurity, VIT-AP   **Jun 2022 – Dec 2024**

- Researched and implemented advanced network monitoring solutions utilizing Zeek and ELK.
- Led research initiatives in automated infrastructure deployment using Terraform and Kubernetes.
- Pioneered security log analysis methodologies through advanced monitoring systems.

Technical/Documentation Lead   **Dec 2023 – Dec 2024**

Null Chapter, VIT-AP

- Led technical documentation and demonstrations of critical security vulnerabilities, including Android device exploitation.
- Orchestrated hands-on workshops on cloud security, network defence and VAPT practices.
- Spearheaded CTF event development as Technical Lead, designing security challenges and evaluation frameworks.

Certifications

- AWS Certified Solutions Architect Associate
- AWS Certified AI/ML Practitioner & Cloud Practitioner
- Azure Administrator Associate (AZ-104)
- Azure AI Associate (AI-102)
- Azure Fundamentals
- Palo Alto Networks Cloud Security Fundamentals
- Multi-GPU CUDA C++ Applications
- Accelerated Computing with CUDA C/C++
- Accelerated Computing with Python

Skills & Interests

- **Technical Skills:** • Cloud & DevOps: AWS, Azure, Docker, Kubernetes, Ansible, ArgoCD, Jenkins, Git, Terraform, Vagrant • AI/ML & Development: Langchain, LangGraph, MCP, Python, Java, Go, Bash, HTML, CSS, MySQL, PHP • Security & Monitoring: VAPT, SAST, DAST, Zeek, ELK Stack, Kafka, Prometheus, Grafana • Systems & Platforms: Linux, Windows, VMware, Proxmox.
- **Soft Skills:** • Strong Communication, Self-Motivated, Problem-Solving, Team Collaboration.
- **Interests:** Specializing in DevOps practices and cloud-native solutions • Exploring Generative AI applications and LLM optimizations • Passionate about automation and scalable infrastructure design.

Projects & Hackathons

Orchestra AI Agentic Platform

- Integrated **MCP** Servers, and **Vectors** into a unified agentic workflow system.
- Built, containerized, and deployed custom MCP servers for scalable **GenAI tool** interoperability.
- Leveraged **AWS S3, EKS, and ELB** to automate infrastructure provisioning, scaling, and cross-environment orchestration.
- Implemented **vector-based retrieval and RAG pipelines** for knowledge augmentation and intelligent context retrieval
- Unified **CLI, backend, and frontend systems** into a production-grade **AI Orchestration Platform**, demonstrating expertise in **AWS, GenAI, and distributed systems**.

Dockerized JS File Reconnaissance

- Engineered automated JavaScript file reconnaissance tool using Docker and shell scripting
- Implemented regex-based source code extraction from active subdomains
- Streamlined security assessment processes through containerized deployment

DevSecOps Implementation

- Integrated container security scanning using Trivy and Clair in CI/CD pipeline
- Implemented automated SAST workflows with SonarQube and GitHub integration
- Enhanced application security through systematic vulnerability detection and remediation

Microservices & Service Mesh Architecture

- Deployed gRPC applications on AKS using Istio service mesh for enhanced traffic management
- Implemented GitOps practices using ArgoCD for automated deployment workflows
- Established robust CI/CD pipeline using Azure DevOps for continuous delivery

Security Monitoring Infrastructure

- Orchestrated Kubernetes clusters using Ansible and Terraform for automated deployment
- Implemented comprehensive logging solution using Zeek, Kafka, and ELK Stack
- Developed automated monitoring and alerting system for security incidents

Cryptographic Implementation

- Developed novel symmetric key encryption algorithm based on Rubik's Cube principles
- Implemented secure key generation mechanism using Java
- Enhanced traditional cryptographic methods with unique mathematical approach

Smart India Hackathon

- Led development of real-time visibility solutions for industrial operations
- Spearheaded Human Target Acquisition and Detection system implementation
- Managed cross-functional team delivering innovative safety-focused solutions

NVIDIA GPU Computing Codeathon

- Achieved 4th position nationwide in NVIDIA's GPU Computing competition
- Optimized complex algorithms using CUDA for parallel processing
- Collaborated in team environment to solve computational challenges

Education

Vellore Institute of Technology, Andhra Pradesh   **2020 – 2024**

B. Tech in Computer Science and Engineering (CGPA: 8.67)