Harsh Mishra

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TECHNICAL SKILLS

Programming Languages: Python, C, Go, ShellScript, Powershell
Distributed Systems: Ray Distributed
CI/CD Tools: Github Actions, Jenkins X, Circle CI
Containers and Orchestration: Docker, Kubernetes
IaC Tools Terraform, Ansible, Azure Resource Manager Templates
Cloud Services: Amazon Web Services:- (EKS, EC2, VPC, IAM, KMS), Azure:- (Azure Container Apps, Azure VNet, Azure SQL, Azure Virtual Machine Scale Sets, Azure App Services, Azure Automation)
Testing Tools: Robot Framework
Databases: PostgreSQL, MySQL, Azure SQL
Frameworks: Flask, Django, FastAPI, Langchain
Version Control Systems and Tools: Git, Github

WORK EXPERIENCE

Site Reliability Engineer   **Internship, Hybrid**
One2N Pvt. Ltd., Pune, Maharashtra   *July 2024 - Present*
- Worked on setting up MLOps Platforms and accomplishing PoCs (Proof Of Concepts) for self-hosted LLM Based applications on Kubernetes and Ray.
- Built ETL Pipelines for dataset generation using LLMs and data ingestion for RAGs using Ray Data and Vector DBs (QDrant).
- Worked on Setting up Monitoring and Telemetry for the application with Memray, Prometheus and Grafana.
- Profiled the application with py-spy and improved GPU VRAM Utilisation by 33.33%.
- Worked in Internal Documentation for Development and Operations for RAG Applications.
- Optimise GPU Utilisation for LLM Inferencing and Embedding Workloads on EKS.

Azure DevOps   **Part time, Freelance, Remote**
ArieInfotech Pvt. Ltd.   *February 2024 - May, 2024*
- Set up an end to end CI/CD Pipeline with Azure DevOps for a 3-tier application.
- Setup IaC Automation for Infrastructure on Azure using Azure Resource Manager, Azure DevOps and Azure Automation Runbooks
- Set up Elastic CrossDB Query for vertically partitioned Azure SQL Databases.

Open Source Contributor - Platform Developer   **Remote**
Runwhen Inc., San Francisco, CA   *September 2023 - January 2024*
- Enhanced RunWhen.com's AI platform with custom plugins for Kubernetes cluster troubleshooting. Added following SLIs(Service Level Indicators) to the platform via plugins:
  * QoS(Quality of Service) of Jenkins X Pipelines
  * Postgres backend health (Blocking Backends Inspection)
  * Performance of Postgres queries (Blocking Query and SlowQuery Inspection)

AWS DevOps   **Part time, Contract, Remote**
Tapan Halani, Independent Contractor, Gujarat, IN   *April 2023 - August 2023*
- Delivered innovative & cost-effective DevOps solutions for clients.
  * Enhanced application deployment on AWS EKS with custom Helm Charts for error page management, addressing a limitation of the ALB Ingress controller.
  * Reduced AWS ALB costs by 50% in development & staging environments.
  * Accelerated Docker build times in Github Actions CI/CD pipeline by 78.5%, using Docker Build Caching.

PROJECTS

- **IaC and GitOps for Vanilla Kubernetes Clusters on AWS EC2**
  Developed an IaC based GitOps Pipeline for Infrastructure Engineers to quickly deploy kubeadm based clusters on Amazon EC2 using Terraform, Ansible and Github Actions. Also, it follows the least privilege principle to secure the pipeline.
- **Github Actions Plugin: Helm on EKS with AWS CLI v2**
  Pioneered a secure keyless sign-on solution for AWS EKS clusters within Github Actions CI/CD pipelines. Addressed the lack of support for AWS CLI v2 in existing actions, enhancing security and future-proofing deployments.
- **Kubernetes Microservices Project: Video 2 MP3 Conversion**
  Designed and implemented a scalable video-to-MP3 conversion application using microservices architecture on Kubernetes. Utilized API Gateway, RabbitMQ for asynchronous processing, MongoDB for data storage, and separate Auth/Notification services for a robust and modular solution

EXTRACURRICULARS

- **Mentee - LFX Mentorship** @ Linux Foundation - Jan 2023 - August 2023
- **Backend and DevOps Volunteer** in Nibble Computer Society, JSSATE Noida - Jan 2022 - Present
- **Wolfram Award: - RUHacks 2022 Hackathon** Organised by Major League Hacking and Ryerson University, Toronto - May 2022

EDUCATION

JSS Academy of Technical Education

Noida, UP, India

B.Tech and Computer Science and Engineering

Nov 2021 - Current