RAGHUL M

Software Engineer - DevOps

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SUMMARY

Experienced and adaptable Software Engineer with a strong foundation in DevOps, CI/CD automation, and cloud-native infrastructure. Proven ability to design and implement scalable, secure, and reliable deployment pipelines using tools like GitHub Actions, Jenkins, Docker, and Kubernetes. Skilled in integrating testing automation, container orchestration, and release management to improve software delivery performance. Adept at collaborating across teams, optimizing developer workflows, and driving continuous improvement in dynamic, high-performance environments. Eager to contribute engineering expertise while building resilient systems at scale.

EXPERIENCE

Associate Software Quality Engineer

RedHat | August 2023–Present

Project: Openshift AI

- Developed unit tests in Go (Golang) for distributed workloads as part of the CodeFlare project, ensuring code reliability and maintaining high-quality standards across microservices.
- Implemented end-to-end automation using the Robot Framework and Python for testing and deployment of Data Science pipelines and model serving runtimes.
- Conducted release verification and validation for production ML models deployed on OpenShift AI, improving accuracy and confidence in deployments.
- Led the adoption of NVIDIA Triton Inference Server on OpenShift AI, enabling high-performance multi-framework model inferencing at scale.
- Built and orchestrated ML workflows using Kubeflow, Elyra, and Jupyter Notebooks with Python, streamlining the model development lifecycle.
- Gained hands-on experience in Generative AI and machine learning methodologies, with a focus on embedding models, transformers, and inference optimization using Python-based frameworks.
- Currently contributing to the Model Serving Runtimes team, applying MLOps practices and working with vLLM, OpenAI APIs, TGIS, and Caikit-TGIS models for efficient large-scale inferencing.
- Automated deployment workflows using GitHub Actions, Python, and Bash scripting, improving CI/CD efficiency and reducing manual intervention.
- Integrated Jenkins pipelines with quality gates to support automated testing, container builds, and deployment processes.
- Proficient in containerization using Docker and Podman, and orchestration with OpenShift and Kubernetes Operators.
- Worked with a range of AI accelerator hardware including NVIDIA, AMD, and Intel Gaudi, optimizing model training and inference using Python-based ML tools.
- Experienced in Agile methodologies, actively participating in sprint planning, reviews, and collaborative development in fast-paced environments.

CERTIFICATIONS

- AWS Developer Associate (Ongoing)
- Redhat Container Specialist
- Github Actions Certification
- Github Foundation Certification
- Redhat Openshift AI Administration
- AI Fundamentals - IBM

EDUCATION

Bachelors Of Computer Science

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

Aug 2020 - May 2023

TECHNICAL SKILLS

- **Programming Languages:** Python, Golang, Bash
- **Frameworks & Libraries:** FastAPI, LangChain, Hugging Face Transformers, Streamlit, Robot Framework
- **AI/ML :** OpenAI API, Ollama, vLLM, Embeddings, RAG, Prompt Engineering, Vector Databases
- **Databases :** SQL, Mongodb, ChromaDB, Supabase
- **Model Deployment & Serving:** OpenShift AI, Kubeflow Pipelines, Triton, vLLM, Docker, Podman
- **DevOps Tools:** GitHub Actions, Jenkins, Nginx , Git, GitLab , Github
- **Cloud & Infra:** OpenShift, Kubernetes, AWS (basic), NVIDIA GPUs, AMD GPUs, Intel Gaudi , MS Azure
- **Testing & Automation:** Robot Framework, Unit Testing (Go/Python) , Pytest
- **Others:** Linux Administration , AI Agents , Sonarqube , Grafanna

PROJECTS

End-to-End Full Stack CI/CD Pipeline with Docker, GitHub Actions, and AWS EC2

Python | GitHub Actions | Docker | AWS EC2 | Self-hosted Runners | Bash | CI/CD Automation

- Designed and implemented an end-to-end CI/CD pipeline to automate the build, test, and deployment of a Dockerized web application on AWS EC2.
- Configured a self-hosted GitHub Actions runner on an EC2 instance to enable full control over the execution environment and resource management.
- Automated the complete lifecycle: Docker image build, security scan, container deployment, and service restarts triggered by GitHub events.
- Integrated branch-based environment promotion and rollback mechanisms to ensure production-grade stability and deployment reliability.
- Applied DevOps best practices including infrastructure automation, security through GitHub Secrets, and deployment logging for traceability.

Custom GitHub Action for Container Image Push to Red Hat Quay

GitHub Actions | Docker | Bash | Red Hat Quay | CI/CD Tooling | DevOps Automation

- Developed a custom GitHub Action to automate the process of tagging and pushing Docker images to Red Hat Quay within CI/CD pipelines.
- Published the action as a reusable DevOps tool, enabling seamless integration into enterprise workflows and developer pipelines.
- Handled dynamic image naming, login authentication, and error handling to ensure secure and robust image publishing.
- Accelerated deployment workflows by eliminating manual steps in the container publishing process and increasing build reproducibility.