# Mohith Munagala

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## PROFESSIONAL SUMMARY

Innovative and performance-driven Cloud & DevOps Engineer with 4+ years of proven experience designing, automating, and optimizing multi-cloud infrastructure across AWS and Azure. Skilled in Docker and Kubernetes (EKS/AKS) for deploying scalable, secure, and resilient containerized applications. Proficient in Infrastructure as Code (Terraform, Helm, CloudFormation) and CI/CD pipelines (Azure DevOps, Jenkins, GitHub Actions) to accelerate release cycles and ensure reliability. Strong expertise in microservices architecture, observability (App Insights, CloudWatch, Prometheus, Grafana), and cloud security using IAM, KMS, and Key Vault. Adept at implementing DevSecOps automation, cost optimization, and cloud-native best practices to deliver high-performing, compliant, and future-ready infrastructure solutions.

## EDUCATION

**Eastern Illinois University – Charleston, Illinois**                                    Aug 2023 – May 2025
MS in Computer Science
**Relevant Coursework:** Cloud Computing, DevOps, Infrastructure as Code (IaC), CI/CD, Kubernetes, Scripting, Cloud Architecture, Security, and Automation Tools.

## TECHNICAL SKILLS

**Cloud Platforms:** AWS (EC2, S3, RDS, Lambda, VPC, IAM, KMS, CloudWatch, Route 53, API Gateway, SQS, EKS, DynamoDB, Amazon Kinesis, AWS Glue, Redshift), **Microsoft Azure** (App Services, AKS, Key Vault, ARM Templates)
**Operating System:** Amazon Linux/Unix, Ubuntu, Debian, Windows server
**Infrastructure as Code:** Terraform, AWS CloudFormation, Helm, AWS CDK, Azure Bicep, AWS CLI, Ansible, Puppet, Chef
**CI/CD Tools:** GitHub Actions, GitLab CI/CD, Jenkins, Maven, AWS Code Deploy, Azure DevOps, Nexus
**Containerization & Orchestration:** Docker, Kubernetes (EKS, AKS), OpenShift, Helm
**Monitoring & Logging:** Prometheus, Grafana, Amazon CloudWatch, Azure Monitor, Splunk, JMeter, Locust, Datadog
**Security & Compliance:** AWS IAM, KMS, VPC Security Groups, S3 Bucket Policies, Veracode, SonarQube, HIPAA/GDPR
**Scripting & Automation:** Python, Bash, PowerShell, YAML, JSON, Golang, Spring Boot, Java, JavaScript, Node.JS
**Databases & Storage:** RDS (PostgreSQL, MySQL), NoSQL, Aurora, DynamoDB, Elasticsearch, Azure SQL
**Networking:** NAT Gateway, Route Tables, DNS (Route 53), Load Balancers (Amazon ALB/NLB), Security Groups
**APIs & Microservices**: REST APIs, SOAP APIs, OAuth 2.0, AWS API Gateway, Lambda, GraphQL, Kafka
**DevOps Tools**: GitOps, Blue/Green & Canary Deployments, Agile/Scrum, Cucumber, Runbook Automation

## EXPERIENCE

**Caterpillar**                                                                                           Peoria, IL
**Cloud Engineer**                                                                            Sep 2025 – Present

- Designed, deployed, and managed cloud infrastructure on AWS and Azure, supporting enterprise-scale applications with a focus on containerized and microservices-based architectures.
- Implemented and maintained Docker containers for application packaging and deployment, ensuring consistency and portability across multiple environments.
- Deployed and orchestrated Kubernetes clusters (EKS on AWS and AKS on Azure) for automated scaling, self-healing, and efficient workload management.
- Built and optimized CI/CD pipelines using Azure DevOps, automating container builds, image pushes to ACR and ECR, and deployment rollouts to Kubernetes environments.
- Utilized AWS services such as EC2, RDS, SNS, SQS, and S3 for compute, database, messaging, storage, and high-availability solutions.
- Configured and managed AWS VPC networking, including subnets, route tables, NAT gateways, and security groups, ensuring network isolation and compliance with Caterpillar security standards.
- Implemented IAM policies, roles, and encryption using AWS KMS to secure access and data at rest and in transit.
- Managed Azure cloud resources, including Virtual Machines, App Services, and Container Instances, enabling

- seamless integration with Kubernetes clusters.
- Developed Azure Functions and Logic Apps to automate workflows and enable serverless integrations across applications.
- Configured Azure Key Vault for centralized secret, certificate, and key management; integrated securely with applications and CI/CD pipelines.
- Enabled performance monitoring and observability through Azure Application Insights and AWS CloudWatch, creating proactive alerting and custom telemetry dashboards.
- Utilized Terraform and ARM templates for infrastructure automation, enabling consistent multi-environment provisioning across AWS and Azure.
- Supported Microsoft Service Fabric for existing microservices and coordinated migration to containerized environments using Docker and Kubernetes.
- Worked closely with cross-functional DevOps and security teams to ensure cloud environment reliability, cost efficiency, and compliance.

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**British Airways**                                                                                          **New York, USA**
**Senior Cloud Engineer**                                                                       **June 2024 – Sep 2025**

- Designed and developed the NDC platform using AWS EKS, Auto Scaling, and ALB/NLB to serve high-traffic flight bookings.
- Architected and provisioned infrastructure using Terraform, Helm, and AWS CloudFormation, enabling seamless deployments for Kubernetes workloads.
- Built secure VPC architectures with IAM, KMS, route tables, NAT gateways, and subnets to meet airline security and compliance standards.
- Developed and optimized CI/CD pipelines using GitHub Actions and Jenkins to automate the build, scan, and deployment of over 40 microservices.
- Designed and implemented RESTful APIs for airline offer and order services using AWS API Gateway and integrated them with AWS Lambda for serverless compute.
- Developed and deployed secure SOAP API endpoints for IATA schema validations, interfacing with external airline systems, which improved data accuracy and compliance with industry standards.
- Developed and maintained Python scripts using Boto3 to automate EKS node group scaling, perform S3 access audits, and streamline log shipping to CloudWatch and S3 buckets for the NDC microservices platform, enhancing operational efficiency and reducing manual intervention.
- Implemented blue/green and canary deployments using Kubernetes and Helm charts to support zero-downtime releases, which increased deployment reliability and minimized service disruptions.
- Configured observability solutions using Prometheus, Grafana, CloudWatch, and Splunk, ensuring high availability and proactive monitoring, which improved system uptime and incident response times.
- Implemented and monitored containerization using Docker and Kubernetes for scalable deployments in the NDC platform, improving reliability and reducing operational overhead.
- Conducted performance testing using JMeter and Locust, tuning autoscaling configurations for dynamic workloads, which optimized resource utilization and improved application performance under varying loads.
- Led disaster recovery and high-availability planning across Multi-AZ with Route 53 and CloudFormation-based failover plans, ensuring minimal downtime and enhanced system reliability.
- Worked with QA teams to validate API contract testing using Postman, SoapUI, and custom Python scripts, leading to more accurate testing outcomes and reduced defects.
- Participated in Agile ceremonies, sprint planning, and release coordination with NDC product owners and QA leads, facilitating smoother project execution and improved team collaboration.

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**TCS**                                                                                                      **Hyderabad, India**
**Cloud Engineer**                                                                                 **June 2021 – July 2023**

- Provisioned and maintained secure and scalable AWS infrastructure using EC2, VPC, S3, RDS, Lambda, and IAM to support large-scale financial applications
- Automated infrastructure deployments using Terraform and AWS CloudFormation across development, UAT, and production environments.

- Developed and improved CI/CD pipelines using GitLab CI and AWS Code Deploy to automate build, test,and release cycles for containerized services, increasing deployment efficiency.
- Deployed microservices on Amazon EKS using Helm charts and managed Docker image versions via private container registries.
- Led Docker containerization and Kubernetes orchestration for financial services, streamlining deployments, enabling elasticity, and optimizing CI/CD workflows.
- Managed versioning, authentication, and schema validation for REST and SOAP APIs using Terraform and CloudFormation templates.
- Developed REST APIs using AWS Lambda and API Gateway to support real-time payment workflows and third-party integrations.
- Wrote Python and Bash scripts for EC2 instance automation, AMI backups, log cleanup, and CloudWatch alarm integration.
- Designed and implemented IAM policies, S3 bucket policies, and KMS encryption strategies to meet internal security and compliance requirements.
- Configured Prometheus and Grafana dashboards along with Amazon CloudWatch alerts for proactive infrastructure and application monitoring.
- Supported serverless workloads using AWS Lambda, SQS, and API Gateway to enable real-time processing for payment transaction systems.
- Conducted root cause analysis and incident response using AWS CloudTrail, VPC Flow Logs, and Splunk logs.
- Participated in daily Agile ceremonies, collaborated with cross-functional DevSecOps teams, and delivered sprint-based cloud deliverables.
- Maintained detailed runbooks, environment documentation, and automation repositories in Git for future reference and team onboarding.
- Developed and enforced cloud security controls and audit policies aligned with HIPAA, GDPR, and internal governance frameworks, collaborating with InfoSec and QA teams for periodic compliance validation.

## CERTIFICATIONS

- AWS Certified Solution Architect
- Microsoft Azure Fundamentals
- AWS Certified Cloud Practitioner
- Certified Kubernetes
- Certified Terraform