

# Lokesh Challagulla

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## Education

### Northeastern University

*Masters of Science in Computer Software Engineering*

Boston, MA

GPA: 3.9/4.0

## Experience

### Wasabi - Cloud Storage

*Cloud Engineer*

Boston, MA

May. 2023 - Present

- Architected, developed & deployed critical infra & apps to serve business needs of cross-functional teams & end-users, thereby boosting business productivity by ~12%, using EKS, Python, Go, Boto3, Helm, Docker, Terraform, RabbitMQ, Kafka, S3, RDS/Aurora, Cloudwatch, among others
- Streamlined deployment processes, reducing deployment time by ~24% and achieving ~18% in cost savings by developing reusable Terraform modules, leveraging reserved/spot instances/Fargate Profiles with Karpenter on EKS & VPC Endpoints. Re-architected & migrated monolithic applications to a serverless architectures utilizing Lambda, Step Functions, Fargate, API Gateway, EventBridge, SQS, SNS, and DynamoDB
- Orchestrated CI/CD pipelines, automated deployments using blue/green deployment strategies with GitHub Actions, Jenkins, Groovy scripts, & ArgoCD. This accelerated release cycles by ~14%, minimized service interruptions, and enhanced system reliability & user experience
- Enforced stringent security practices, developed automatic remediations, & ensured system compliance by leveraging Hashicorp Vault, Secrets Manager, KMS, WAF, Config, CloudTrail, NAT Gateways, SonarQube, Trivy, Bastion Hosts, VPC & Interface Endpoints
- Integrated Grafana, Prometheus, Prometheus Exporter, OpenTelemetry, AWS X-Ray, ELK Stack (Elasticsearch, Logstash, Kibana), along with Cloudwatch and Fluent Bit for monitoring, logging & end-to-end tracing

### PrimeNode Web Solutions Private Limited

*DevOps Lead ← DevOps Engineer*

Telangana, India

Oct. 2018 - Jul. 2022

- Led the team responsible for architecting, deploying and maintaining Kubernetes clusters integrated with a JBOD storage setup and ZFS, leveraging advanced features like compression, snapshots, and RAID-Z for data integrity and redundancy
- Automated system monitoring, offsite backups, alerting, & remediation of software/hardware incidents using Python and shell scripts, while addressing performance issues. Deployed CI/CD pipelines using Jenkins with Groovy to automate builds & Ansible for configurations, achieving over ~30% reduction in operational costs & enabling agile deployments
- Spearheaded the migration of applications running on Docker Swarm to Kubernetes. Orchestrated live migrations of web apps and virtual machines from on-premises infrastructure & various cloud providers, minimizing downtime and ensuring seamless service continuity
- Integrated comprehensive monitoring, logging & tracing solutions using Prometheus, Grafana, AlertManager, OpenTelemetry, HoneyComb, ELK stack (ElasticSearch, Logstash & Kibana) & Istio. Developed custom scripts for enhanced hardware monitoring and alerts, improving Mean Time to Respond (MTTR), optimized egress usage, and resulting in over ~25% increase in operational efficiency

## Projects

### FileFlux: Secure & Scalable File Storage and Management

[GitHub Repository](#)

- Architected a highly-available & scalable microservices architecture for S3-style file store & management, leveraging bucket-based architecture and robust user authentication, with the ability to handle 10,000 concurrent connections and sustain 2,000 file uploads per second
- Leveraged EKS, Python, Helm, Terraform, CockroachDB, ZFS, EC2, Fargate, Karpenter, Packer, Ansible, ArgoCD, GitHub Actions, Jenkins, Trivy, SonarQube, Istio, Prometheus, Grafana, Elasticsearch, Logstash, Kibana, Fluent Bit, Cloudwatch, Hashicorp Vault, External DNS

### CVELens - AI-Powered CVE Pipeline for Real-Time Vulnerability Intelligence

[GitHub Repository](#)

- Developed a custom Kubernetes Operator using Go to automatically process over 275,000 CVE records in less than 3 minutes and an AI chatbot with a conversational interface to fetch them, achieving a low utilization of 0.5 GB RAM & 0.3 vCPU during queries
- Leveraged Go, SentenceTransformer NLP (Natural Language Processing) model, Flask, FAISS, Mistral AI, EKS, Helm, Apache Kafka, PostgreSQL, Cluster Autoscaler, KEDA, Istio, Flyway, GitHub Actions, Jenkins with Groovy, Valero, Jaeger, Prometheus, Grafana, Fluent Bit, Cloudwatch

### ImagifyAI - AI-Powered Image Upload, Tagging, Search and Management

[GitHub Repository](#)

- Architected, developed & deployed a React & Node.js based full-stack serverless application with robust user authentication, featuring automatic tagging of uploaded images using the ResNet50 AI model, along with functionality to search images based on tags and access/download them

### CloudConvert: Serverless Multi-Cloud Image Conversion Pipeline

[GitHub Repository](#)

- Designed & implemented a multi-cloud, highly scalable fan-out architecture for an image processing pipeline, enabling the conversion and storage of images in multiple formats, including JPG, PNG, and WEBP
- Leveraged API Gateway, Python, Cognito User Pools, S3, DynamoDB, SNS, SQS, Lambda with Pillow Python Library & Azure SDK custom layer, Azure Blob Storage

### ProductSphere - Highly Scalable & Simple Product Management System

[GitHub Repository](#)

- Programmed a highly-available Node.js web application to allow registered users to create products, upload associated images and receive order notifications via email
- Leveraged EC2, ALB, ASG, S3, ACM, KMS, Packer, Secrets Manager, Route53, RDS Multi-AZ Cluster, CloudWatch Logs, Metrics, Alarms & CWAgent, VPC Flow Logs, Lambda, SendGrid, GCP bucket, & DynamoDB

## Certifications

- [CKA: Certified Kubernetes Administrator](#)
- [AWS Certified Solutions Architect – Professional](#)
- [HashiCorp Certified: Terraform Associate \(002\)](#)
- [HashiCorp Certified: Vault Associate \(002\)](#)
- [CKS: Certified Kubernetes Security Specialist](#)
- [AWS Certified DevOps Engineer – Professional](#)
- [AWS Certified Security – Specialty](#)
- [More](#)

## Technical Skills

**Cloud Platforms, Tools & Technologies:** AWS, Azure, GCP, Kubernetes, Docker, Terraform, Pulumi, Packer, RabbitMQ, Helm, Jenkins, ArgoCD, Kafka, Ansible, Chef, Puppet, Hashicorp Vault, Trivy, SonarQube

**Programming Languages:** Python, Javascript, Go, React, Node.js, Groovy, Boto3, shell scripting

**Monitoring & Logging:** Prometheus, Grafana, ELK stack (Elasticsearch, Logstash, Kibana), Fluent Bit, FluentD

**Databases:** MySQL, PostgreSQL, CockroachDB, DynamoDB

**Version Control Systems:** Git, GitHub, GitLab, CircleCI