Rohit Vemparala

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SKILLS

Languages: Java, Python, Golang, Rust, TypeScript, Bash, C++, TLA+ (modeling concurrent/distributed systems)
Frameworks: Spring, React, Flask, NextJS, Netflix OSS (Eureka, Zuul, Hystrix)
Cloud & Orchestration: AWS (EKS, EC2, Lambda), Azure, Kubernetes, Docker (Swarm), Helm
Data / Streaming: Flink, Airflow, Kafka, Spark, Hadoop,, Change Data Capture (CDC)
DevOps & CI/CD: GitLab CI/CD, Jenkins, ArgoCD, Snyk, SonarQube, Chaos Monkey
Monitoring & Observability: Datadog, Prometheus, OpenTelemetry, FluentBit, ELK, OpenSearch, PagerDuty, Zabbix
Databases: Relational (PostgreSQL, MySQL), NoSQL (DynamoDB, RocksDB, MongoDB), VectorDB (Milvus)
Infrastructure as Code & Config Management: Terraform, CloudFormation, AWS SAM, Ansible
Certifications: Microsoft Certified: Azure Fundamentals

WORK EXPERIENCE

Boston University   **Boston, MA**
Research Fellow   *Jan 2025 - Present*
- Built automated document parsing on air-gapped cluster using Donut (SWIN Transformer) and docTR
  - Fine-tuned models on **GPU cluster** - achieved **94%** accuracy on unseen documents

Directed Study/Teaching Assistant   *Sept 2024 - Dec 2024*
- Assisted in teaching the graduate level **Distributed Systems** course (GRS CS 651)
  - Worked on consensus algorithms (Raft, OmniPaxos) and modeling algorithm correctness with **TLA+**

Staples Inc   **Framingham, MA**
Cloud Services Intern   *June 2024 - Aug 2024*
- Provide operational support for cloud Infrastructure - Azure Kubernetes Services upgrade, automate OS/security patching

Protium   **Bangalore, India**
Devops Engineer / Associate Vice President (Senior DevOps Engineer)   *Jan 2022 - Aug 2023*
- Managed multiple **Kubernetes** clusters across environments via **AWS CloudFormation** (AWS EKS)
  - Engine version upgrade with no downtime, setup multiple nodegroups (GPU, memory-intensive etc.)
  - Write **Helm** charts and **CI/CD** pipelines for deploying applications across stacks to clusters
- Led **cost optimization** effort saving over **$10,000/month** on cloud infra spend
  - Optimize server costs (SPOT etc.) and placement to minimize data transfer cost (VPC Flow logs)
  - Minimize S3 - GET-api cost by merging files (parquet), storage tiering
- Handle **security and compliance** of applications and cloud infrastructure (CIS 1.4, AWS GuardDuty)
  - Integrated Gitlab **SAST**, **Snyk**, and image scanning into CI workflows to enforce secure coding
  - Set up Web Application Firewall (**WAF**), **AWS SSO** with **Azure Active Directory** (ABAC and RBAC)
  - Automate system patching with **Ansible,** setup server access via **Session Manager**
- Develop various applications, scripts, executable binaries with Python, Bash, Powershell
  - Cross platform executables (**Golang**) - providing cloud network access to external vendors
  - **ETL** pipelines (**Apache Airflow**), **Flask** application integrated with **OpenSearch** for low-latency data retrieval

Publicis Sapient   **Bangalore, India**
Associate Software Development Engineer   *Jul 2020 - Dec 2021*
- Built and maintain various systems for Goldman Sachs Transaction Banking platform
  - Rest APIs (**Spring Boot**, **React**), Kafka consumers, real-time dashboards (Reactor framework)
  - Stream processing (**Apache Flink** on **ECS Fargate**) millions of events in milliseconds from **Kafka** topics
  - Manage **RDS** database (Data archival, indexes, connection pooling, parameter tuning etc.)

EDUCATION

Boston University   **Sept 2023 - Jan 2025**
MS in Computer Science (spec. Data-Centric Computing)   *GPA: 3.79/4.0*

PROJECTS

Custom FS Syncer (S3-integrated File Tracker for K8s): Built in **Go** with Linux **inotify**, syncs files to **S3** and supports rollback/versioning via **GitLab** CI. Designed for deployment in **Kubernetes** clusters

Epidemic Engine (ETL & Anomaly Detection Pipeline): Ingested health data from **Kafka**, processed via **Hadoop** batch jobs, and performed **Spark**-based anomaly detection on **Kubernetes**

Pulse (Real-Time News Analysis Platform): RAG system that ingests news with **WebSub**, generates insights with **LangChain** + **LLM**, streams a live knowledge graph into **Feldera**, an incremental query engine. Backend in **Rust**, **FastAPI** for LLM interface, Frontend in **Next.js** (Bun runtime, Tailwind), served via **Traefik** with **ngrok** tunnel, vector search with **Milvus**