# Gaurav Patil

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## SUMMARY

Backend Engineer with 4+ years building scalable microservices and data systems. Proficient in TypeScript, Node.js, MongoDB, AWS, with a strong foundation in distributed systems and cloud technologies. Demonstrates expertise in database migrations, messaging systems, and infrastructure-as-code, coupled with excellent problem-solving and communication skills in fast-paced, collaborative environments.

## WORK EXPERIENCE

❱ **Software Engineer** Sept 2021 - Dec 2022
*Alef*

**Project - Enterprise Network Access Control**

○ Designed and developed **2 microservices** within **Docker containers** as the **API management layer** for Network Access Control, utilizing **MongoDB** for data management, enabling enterprises to enforce **AAA rules and policies**

○ Led the integration of **AWS Kafka** for enhanced **IPC** between cloud and edge services, culminating in a **25% improvement in system efficiency**

○ Devised a unique **partitioning strategy** for **Apache Kafka**, ensuring **conflict-free enterprise-level data isolation**

○ Successfully translated **30+ user stories** into detailed **technical and functional requirements**, collaborating closely with the **Product team**

**Project - Enterprise Reporting Engine**

○ Led the design of a custom **Prometheus-compatible exporter** using **Python** and **ADOT** to export enterprise **KPI metrics** from edge sites to **AWS Prometheus (AMP)** in real-time, improving metric tracking accuracy by **40%**

○ Implemented a **reporting engine microservice** based on the **Google Reporting engine model**, enabling enterprises to query (**PromQL**) reports from **AMP**, reducing report generation time by **50%**

○ Created **AMP recording rules** for **bandwidth reporting**, improving efficiency by **50%** and reducing **AWS costs**

**Project - Licensing Framework for Edge Services**

○ Engineered a **licensing framework** that augmented **infrastructure and subscription management**, enhancing **licensing operations** by **30%**

○ Implemented an **aggregator design with pull-based messaging, reducing API calls by 70%** in edge deployments

❱ **Software Engineer** Oct 2019 - Sept 2021
*GlobalLogic, A Hitachi group of company*

**Project - Daxko Engage CRM Application**

○ Developed and deployed **RESTful web services** using **Django REST framework**, cutting **API response times** by **20%** and enhancing system **scalability** to support over **10,000 concurrent users**

○ Built responsive and interactive front-end components using **React** and **TypeScript**, improving **user engagement by 30%**

○ Optimized **deployment processes** with **CI/CD**, improving deployment efficiency by **50%**

○ Led the seamless migration of over **10 TB of business data** from **RavenDB** to **PostgreSQL** using **Python ETL scripts**, ensuring **100% data integrity**

## SKILLS

**Frameworks:** Django REST Framework, Flutter, Flask, Flask-RESTful, TestNG, NUnit
**Libraries:** React, TensorFlow, Keras, Torch, NLTK, SpaCy, Pandas, Scikit-Learn
**Tools & Technologies:** Kubernetes, Apache Kafka, Apache Spark, Node.js, Docker, MySQL, Oracle, MongoDB, SQLite, Maven, Postman, Tableau, Make, GitHub, BitBucket, Jenkins, GCP, AWS, Linux, Windows
**Programming:** C, C++, Python, R, Dart, Java, Javascript, SQL, HTML, CSS, Bash, Typescript
**Infrastructure as Code:** AWS CloudFormation, Terraform, AWS CDK

## PROJECT

- **AWS CDK React Fullstack**
  Designed and developed a full-stack application using AWS CDK for infrastructure as code and React for the front-end
  **Technologies :** AWS CDK, React, AWS Lambda, AWS API Gateway, DynamoDB, S3, TypeScript

- **Real time violence detection using machine learning**
  Developed a real-time public violence detection system with CNN and RNN algorithms, achieving an F1 Score of 95.5%, enabling swift threat information relay to authorities and optimizing video data processing for accuracy

## EDUCATION

❱ **Illinois Institute of Technology, IL** Aug 2023 - May 2025
*Master in Computer Science*

**Coursework:** Natural Language Processing, Mobile Application Development, Science of Programming, Advanced Database Organization, Information Retrieval, Online Social Network Analysis

❱ **Savitribai Phule Pune University, India** May 2015 - May 2019
*Bachelor of Engineering in Information Technology*

## COMPETITIVE ACHIEVEMENTS

- **1st place in GL Sparks 30 Hacks Coding Contest** at GlobalLogic, 2020

- **Champion of the Code Vita coding competition** among 280 participants