Supriya Mandal

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Profile Summary

Backend Engineer with 2+ years of experience designing and developing scalable, **event-driven systems** and **microservices** in fast-paced **SaaS** environments. Proven expertise in building and maintaining distributed systems using Java, Go, AWS (SQS, SNS, ECS, MSK), Kafka, and Terraform/Terragrunt. Experienced in owning critical backend components, optimizing system performance, and automating CI/CD pipelines. Passionate about system design, cloud-native architectures, and building high-reliability platforms that power business-critical workflows.

Education

Indian Institute of Science (IISc) — Bangalore
M.Tech in Computational and Data Sciences (CDS) — *2021 – 2023*

Sathyabama Institute of Science and Technology — Chennai
B.Tech in Information Technology — *2016 – 2020*

Professional Experience

Backend Engineer (Platform) — Aug 2023 – Present
Chargebee — *Bangalore*

- Owned the central **Queue Management System** (AWS SQS/SNS), managing end-to-end asynchronous workflows across multiple product teams.
- Contributed **Kafka-based event-driven platform** to enhance webhook scalability and reliability, handling millions of messages daily.
- Partnered with internal teams to onboard asynchronous flows—helped in design, debugging, and testing of message-based integrations.
- Automated infrastructure provisioning using **Terraform/Terragrunt**, enabling environment parity and faster queue creation/update workflows.
- Enhanced CI/CD pipelines and automated deployments, reducing release times and increasing developer productivity
- Monitored system performance and reliability using **Datadog**, **Splunk**, and **CloudWatch**, and address issues proactively.
- Collaborated in production incident response, root cause analysis, and implemented preventive measures for recurring patterns.
- Learned taking **ownership** of the modules
- Improved code reading and debugging skills using AI tools

Computer Vision Researcher — March 2022 – July 2023
Visual Computing Lab @ IISc — *Bangalore*

- Worked on **unsupervised Deep Learning** based video anomaly detection & localization
- Worked on few shot **face recognition** system
- **Finetuned** diffferent CNN models with different datasets
- Developed skill to read research papers and implemented them

Projects

Kafka based eventing | *Java, Kafka, AWS MSK, CICD, Splunk, Datadog* — July 2025 – Present

- Implemented producer and consumer code for event-driven webhook delivery at scale.
- Developed the **AWS MSK** baseline infrastructure, ensuring reliability and observability.
- Contributed on **observability** to monitor the system
- **Improve webhook delivery by 70%**

Central Queuing System | *Java, Go, SQS, SNS, ECS, Cloudwatch, Docker, Git Action* — Dec 2023 – present

- Contributed in consumer code to handle the concurrent messages, improve throughput
- Implemented graceful shutdown in sidecar
- Reduce deployment time from **2-3 days to 1hr** by designing and developing **CI/CD pipelines** to automate the queue management.
- Became a one of the **top maintainer** and contributor of the queuing system

Other Projects

DLL Based Video Anomaly Detection | *Python, Tensorflow, Pytorch, OpenCV* Dec 2022 – June 2023

- Developed **video anomaly detection and localization** model using **CNN-LSTM** and **3D Convolution autoencoder**
- Enhanced the model's robustness by reformulating the **video classification problem as an image classification** using the **Swin Transformer**
- Trained and tested the model in an unsupervised manner using **UCSD pedestrian dataset**

Few Shot Face Recongnition | *Python, Tensorflow, Keras, Scikit Learn* April 2022 – April 2022

- Used **Siamese Neural Networks** (SNN) to build a face recognition system over face dataset with fewer data samples.

Technical Skills

Languages: Java, Go, Python, SQL
Messaging & Event Systems: Apache Kafka, AWS SQS/SNS, MSK
CI/CD & DevOps: AWS, Docker, GIT, GitHub Actions, CodeBuild, Terraform, Terragrunt
Monitoring & Observability: Datadog, Splunk, CloudWatch, Postman
AI Tools: Cursor, Windsurf, Github copilot, Bolt, Claude