

# Aishwarya Murahari

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## Education

### San Jose State University

MS in Software Engineering — GPA: 3.73

San Jose, CA

May 2026

### Bangalore Institute of Technology

B.E. in Information Science and Engineering — GPA: 3.76

Bengaluru, India

May 2017

## Skills

**Frontend:** React, Next.js, TypeScript, JavaScript, Tailwind, HTML5, CSS3, Redux, AngularJS, Bootstrap  
**Backend & Systems:** Node.js, Python, Go, FastAPI, Flask, REST, WebSockets, GraphQL, Keycloak, Distributed Systems, Event-Driven Architecture  
**Cloud & DevOps:** AWS (EC2, S3, ELB, EKS), Docker, Kubernetes, Terraform, Helm, NGINX Ingress, CI/CD, Jenkins, CircleCI, Ansible, Cloudflare, Networking (VPCs, Load Balancing, DNS), Security (TLS, OAuth2, IAM)  
**Database & Storage:** MongoDB, PostgreSQL, MySQL, SQLite, Redis, RabbitMQ, Firebase Firestore, Pinecone  
**Machine Learning & AI:** Retrieval-Augmented Generation (RAG), LLMs, LangGraph, NLP, Open API  
**Observability & Reliability:** OpenTelemetry, Logs, Traces, Metrics, Alerting, Root Cause Analysis  
**Tools & Workflow:** Git, Agile, Postman, Jest, Pytest, GTest, CMake, Valgrind, GDB, Perf, FlameGraph

## Professional Experience

### Senior Full Stack Engineer | Accenture, India

Oct 2017 – May 2022

- Engineered WCAG-compliant UIs with React/Redux, HTML5, and CSS3, boosting user engagement by 25% and satisfaction by 15% .
- Spearheaded migration to Keycloak + OpenID Connect with JWT, strengthening security posture and reducing authentication incidents.
- Developed and deployed REST/GraphQL APIs in Node.js + MongoDB, containerized microservices on Kubernetes (AWS EC2, S3, ELB) to improve deployment agility.
- Optimized database queries and caching strategies, cutting API response time by 40% and enhancing scalability under peak loads.

## Academic Projects

### Automotive Inventory Management Platform

Oct 2024

- Architected a cloud-native microservices ecosystem (Node.js, Docker, Kubernetes on AWS) enabling real-time multi-user inventory synchronization.
- Delivered OpenAPI v3 REST services with SSO via Keycloak (OAuth2 + TOTP MFA), PostgreSQL + NeonDB with Redis caching, RabbitMQ event streaming, and full observability (Prometheus/Grafana/ELK).

### Food Security & Nutrition Intelligence Chatbot

Dec 2024

- Developed a RAG-based assistant (Python, LangChain, Hugging Face Transformers) answering from multi-PDF corpora with embeddings + vector store and a responsive React/TypeScript UI.

### Distributed Data Retrieval Framework

Feb 2025

- Engineered a multi-process C++ library for large-scale CSV analytics; added gRPC/Protobuf IPC, OpenMP parallelism, test/bench suites, and Perf/FlameGraph profiling.

### AI-Powered Real-Time Chat Application

Sept 2025

- Designed and built a cross-platform real-time multi-user chat application using Flutter and FastAPI, with WebSocket-based messaging, REST APIs, media sharing, voice input, and AI-assisted conversations.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline leveraging Amazon Bedrock (Cohere embeddings), Pinecone vector database, and Google Gemini to deliver grounded, context-aware plant and animal identification.
- Automated infrastructure provisioning using Terraform, deploying containerized services on AWS EKS with Docker, Helm, NGINX Ingress, and Cloudflare.

### Intelligent Operations & Self-Healing Systems

Oct 2025 – Present

- Designing a Model Context Protocol (MCP) for unified handling of logs, traces, and metrics, and implementing an agent-based system in LangGraph (Orchestrator, Logs, Metrics, Diagnosis agents) for autonomous alert triage and root-cause analysis in distributed systems.
- Building an evaluation pipeline to benchmark agent performance using simulated Kubernetes outage scenarios and real-world observability data.

## Nanodegree & Certifications

### Full-Stack JS Developer Nanodegree, Udacity

Oct 2023