

Deepak Kumar Somasundaram

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EDUCATION

Master of Science in Information Systems

Northeastern University, USA

Sep 2024 - Apr 2026

Focus Areas: Full-stack Development, Cloud & DevOps

Bachelor of Engineering in Electronics and Communication

Sri Venkateswara College of Engineering, India

Aug 2018 - Jul 2022

TECHNICAL SKILLS

Programming: Java, Python, C#, JavaScript, TypeScript, Shell scripting, Bash, C++

Database Systems: SQL, NoSQL, MySQL, PostgreSQL, MongoDB, RDS, DynamoDB, Redis

Web Development: HTML, CSS, React.js, NextJS, Angular, JSON, jQuery, REST APIs, .NET Core, Spring Boot, FastAPI, Node.js

Cloud & DevOps: AWS, Microsoft Azure, Azure DevOps, Git, GitHub, GitHub Actions, YAML, Docker, Terraform

AI-Assisted Development: Claude Code, GitHub Copilot, Cursor

PROFESSIONAL EXPERIENCE

Software Engineer, Prodex Technologies

Feb 2023 - Jul 2024

Skills – Java, Spring Boot, Hibernate, JavaScript, React, MySQL, Docker, CI/CD

- Architected scalable **RESTful APIs** using **Java/Spring Boot** within a **microservices oriented** backend, accelerating feature development turnaround time by **30%**.
- Modernized **15+** legacy **GWT** screens by migrating legacy modules to **React** and **TypeScript**, delivering a more responsive and modular frontend experience while improving overall user experience by **70%**.
- Wrote unit/integration tests with **JUnit** for backend services, reducing regression issues by **40%** before sandbox deployment.
- Modified **GitHub Actions CI/CD** workflows to automate **Docker image** deployments across **AWS ECR** and **ECS**, ensuring reliable sandbox releases and streamlined feature delivery.
- Collaborated with senior developers during **code reviews** and **documented 10+** feature implementations and bug fixes, improving development traceability and reducing onboarding time for new engineers by **20%**.

Software Engineer, HealthOneCloud

Jun 2022 - Jan 2023

Skills – Microsoft Azure, Azure Logic Apps, .NET Core 8, C#, ASP.NET, Angular, Entity Framework, Microsoft SQL Server

- Developed backend APIs in **.NET Core 8** and **Entity Framework** for a healthcare SaaS platform, supporting **10+** distinct medical billing workflows internally routed through **Azure API Management**.
- Optimized **T-SQL stored procedures** in **MS SQL Server** for billing data retrieval, improving query performance by **25%** while preserving data integrity across releases.
- Migrated a client-requested feature across **Angular** modules to a new screen, preserving original functionality and reducing user navigation steps by **30%**.
- Orchestrated a **Node.js** log-parsing **script** with **Azure Logic Apps** to post structured QA updates to Microsoft Teams, reducing manual coordination effort by **75%**.

PROJECTS

Cloud-Native Full Stack Platform on AWS

Jan 2026

- Spearheaded the creation of a PR oversight tool with **React**, **Python (FastAPI)**, **PostgreSQL**, and **GitHub APIs**, implementing **JWT** based OTP authentication and **AWS SES** for scheduled daily stale PR alerts, reducing overdue PRs by **60%**.
- Engineered **Redis caching** with TTL-based expiry, reducing API response time from **1470ms to 20ms (98.6% faster)** and implemented rate-limited OTP storage for secure authentication flows.
- Architected **end-to-end cloud deployment**, provisioning **AWS infrastructure as code (IaC)** via **Terraform** — **VPC**, **ECS Fargate**, **ALB** with **HTTPS**, **RDS**, **ElastiCache** in private subnets, **S3 + CloudFront CDN** with custom domain on **Route 53**, encrypted at rest with **KMS**.
- Automated deployments with **GitHub Actions CI/CD** pushing **Docker** images to **ECR** with rolling **ECS** deploys, configured **Auto Scaling** (1–4 tasks) with **CloudWatch** alarms, achieving **zero downtime** under **500 concurrent users**.

LLM-Assisted Pipeline Debugger

Apr 2025

- Designed a serverless **Python** bot using **AWS Lambda** and **API Gateway** that intercepts **CI/CD** failures via **GitHub webhooks** and routes error logs to an **LLM** for intelligent diagnosis, eliminating manual log debugging.
- Engineered a prompt pipeline that cleans raw logs, pairs associated code diffs with structured context, and sends the data to **Claude (AWS Bedrock)** for **Generative AI analysis**, delivering root cause analysis with fixes in under **10 seconds**.
- Containerized and shipped via multi-stage **Docker builds** and **GitHub Actions CI/CD**, leveraging **AI-assisted coding (Claude Code)** to enable zero-touch deployment on every commit.

Assault Reporting and Case Management System

Apr 2025

- Constructed a **Java** backend utilizing **OOP** principles and layered architecture, processing 120+ cases daily while maintaining data integrity for over 50 users across 6 enterprise types.
- Designed **RBAC** to coordinate case assignment across enterprises, reducing unauthorized access incidents by **~40%**.
- Integrated **DB4O** object database to establish a durable data tier, allowing seamless case lifecycle monitoring and accelerating data retrieval efficacy by nearly **35%** across diverse enterprise types.