Rahul Shah

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EXPERIENCE

Software Engineer   May 2024 – Present
Solutions Unified LLC.   *Califon, NJ*

- Designed a scalable **file upload pipeline** using pre-signed **S3** URLs with chunked uploads, S3 multipart support and **Lambda** triggers, reducing core service load and improving file processing latency by **35%.**
- Automated multi-service (**Elastic Beanstalk, S3, DynamoDB**) deployment using **AWS CDK**, reducing customer environment setup time by **75%** through seamless integration with **CloudFormation.**
- Developed an admin dashboard using **React**, **Tailwind**, and **Go** backend services to monitor real-time usage metrics and system logs, enhancing system observability and reducing debugging time by **60%.**
- Built a **notification service** to process usage data from client environments via **SNS** and **SQS**, triggering Lambda-based metering and **Stripe** integration for billing, reducing errors by **25%.**

AI Full-Stack Developer   Jan. 2024 – Jan. 2025
Enterprise Technology(Mastercard Foundation), Arizona State University.   *Tempe, AZ*

- Architected three full-stack platforms serving over **10,000+** users to build, compare, and interact with various **LLMs** using **AWS Bedrock**, **OpenSearch**, and **Llamaindex** with audio and image support.
- Engineered a **voice-enabled assistant** by integrating **Whisper** for transcription and **Amazon Polly** for speech synthesis, allowing seamless bi-directional audio interaction with LLMs for accessibility-focused use case
- Architected a modular backend system supporting plug-and-play integration of third-party **LLM** providers, enabling flexibility in model experimentation without downtime.
- Created a **multi-agent** orchestration system using **LangGraph** and **FastAPI**, enabling chained LLM workflows for planning, memory, and tool use, reducing user interaction steps by **50%.**

Software Engineer II (Full-Stack)   June 2020 – July 2023
Allegion (Schlage).   *Bengaluru, India*

- Drove the migration of an internal API from **REST** to **GraphQL**, optimizing query complexity and efficient data fetching, reducing the need for multiple API calls & improving developer efficiency by **35%.**
- Led the integration of an automated **CI/CD pipeline** using **Jenkins**, **Docker**, and **Kubernetes**, reducing deployment cycles by **40%** and implementing blue-green deployment for zero-downtime production updates.
- Developed an onboarding workflow using **React** and **Redux**, integrating REST APIs and custom hooks, improving task completion rates and reducing onboarding time by **60%.**
- Built a middleware-based request tracing system in **Node.js** using OpenTelemetry, enabling distributed tracing across microservices and reducing debugging time by **40%.**
- Designed and implemented an **end-to-end testing** framework using **Selenium WebDriver** and **Mocha**, enabling automated browser testing reducing manual QA efforts by **70%.**

PROJECTS

InfoFetchBot (link) | *Python, Discord API, Open AI, AutoGen, NotionAPI*   Sep. 2024 – Oct. 2024

- Created a Discord bot that processes incoming messages, triggers web searches, and scrapes website content using AI agents, delivering concise summaries directly into Notion for data organization and retrieval.

AutoDeploy (link) | *Node.js, S3, ECR, ECS, Redis, Web Sockets*   Sep. 2024 – Oct. 2024

- Developed a backend application to automate React project builds from GitHub URLs using ECS build servers, deploying static files to S3 and generating custom URLs with a reverse proxy for efficient serving.

TrackMate (link) | *React Native, Node.js, MongoDB, GPS*   Jul. 2023 – Aug. 2023

- Built a React Native mobile app with GPS tracking, enabling users to record, store, and review travel routes with distance metrics; integrated secure user authentication and cloud-based route history storage.

TECHNICAL SKILLS

Languages & Frameworks: Go, Java, TypeScript/JavaScript, Python, FastAPI, React, Node.js, Spring Boot
Cloud & Tools: AWS (EC2, API Gateway, S3, ECS, Bedrock), Kubernetes, Docker, Git, Jenkins, Selenium
Data & Messaging: DynamoDB, PostgreSQL, MySQL, MongoDB, Redis, Kafka, RabbitMQ, SQS, SNS

EDUCATION

Arizona State University   Tempe, AZ
Master of Science in Computer Science **GPA: 4.0/4.0**   *Aug. 2023 – May 2025*