

RAHUL SANNIGRAHI

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Summary

Backend-focused Software Engineer with 3+ years building secure, scalable systems on AWS across payments, authentication, and microfrontend architectures. Reduced redundant API calls by 70% and cut microfrontend load time by 23% through caching and code-splitting. Hands-on with Go, TypeScript, and GraphQL, with recent focus on OIDC-based SSO and AI agent tooling (LangGraph, custom MCP servers).

Experience

Zeus Learning | *Senior Software Engineer*

November 2025 – Present

- Architected an OIDC-based Single Sign-On proof-of-concept, enabling a third-party platform to authenticate through an internal Identity Provider against the company's Service Provider.
- Designed a two-phase (primary/secondary) certificate rotation scheme for SAML SSO across **12** identity providers, migrating each IdP to a new primary certificate within a defined rotation window before retiring the outgoing one, eliminating downtime and manual effort from periodic rotation. Certificates are stored as SecureStrings in AWS SSM Parameter Store and fetched at build time.

Zeus Learning | *Software Engineer*

June 2023 – November 2025

- Engineered a secure Golang REST API for Stripe Checkout with idempotent session handling and AWS ElastiCache caching, cutting redundant Stripe API calls by **70%** and improving response latency by **40%**.
- Built cross-domain GraphQL authorization with an AWS Lambda Authorizer integrated into AWS AppSync Merged APIs, centralizing authentication and migrating access control from API-key to token/cookie-based.
- Developed React microfrontends with Module Federation (Webpack 5) and Zustand, implementing a publish-subscribe model for inter-MFE communication; cut load time **23%** via React.lazy, Suspense, and dynamic imports.
- Secured GraphQL APIs on AWS AppSync via a custom authorizer validating sessions against Redis, reducing authorization latency.

Zeus Learning | *Software Engineer Intern*

January 2023 – May 2023

- Diagnosed and resolved a production issue in a React microfrontend architecture caused by cached `remoteEntry.js` files; implemented content hashing in Webpack Module Federation to eliminate stale asset conflicts.
- Extended CKEditor 4 with custom plugins to enhance the content-authoring workflow and add advanced editing capabilities.

Technical Skills

Languages: C++, Go, JavaScript, TypeScript, Python, SQL, GraphQL

Frameworks/Libraries: React, FastAPI, Node.js, Express.js, Serverless Framework, Jest

Cloud & DevOps: AWS (AppSync, API Gateway, Lambda, EventBridge, CloudFront, SQS, SES, EC2, S3), Docker, Jenkins, CloudWatch

AI/LLM: Generative AI, AI Agents, LangGraph, Custom MCP Server Development, Prompt Engineering, Prompt Caching

Auth Protocols: OAuth 2.0, SAML 2.0, OpenID Connect (OIDC)

Databases: PostgreSQL, MySQL, DynamoDB, Redis

Tools: Git/GitHub, VS Code, Postman, WSL

Achievements

- Ranked 587 at the ACM ICPC Asia Amritapuri Regional Contest 2020
- Achieved Global Rank 1304 in Google Kick Start Round H 2020
- Authored technical blog posts on Medium with 4.3K+ cumulative views, including "C++11 vs C++14 vs C++17"

Projects

Big Integer Library | *C++, OOP* | GitHub

- Designed a C++ library supporting integers beyond the native 64-bit range (up to 10^{10000}) using object-oriented design, implementing arithmetic operators, comparison operators, and supporting math utilities.

Education

B.Tech, Birla Vishvakarma Mahavidyalaya

June 2019 – May 2023

Bachelor of Engineering

CGPA: 9.2/10