

# Ayan Modak

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## BACKEND DEVELOPER | 2.5+ Years | Node.js | Distributed Systems | AWS

Backend Developer experienced in building **production-grade, scalable backend systems** using **Node.js, TypeScript, PostgreSQL, MongoDB, Redis, and AWS**. Strong experience in **microservices, async processing, and high-concurrency APIs**.

Comfortable working in startup environments with **end-to-end ownership** — from architecture and schema design to deployment and performance optimization.

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## SKILLS

**Languages:** JavaScript, TypeScript, SQL

**Backend:** Node.js, Express, REST APIs, GraphQL

**Architecture:** Microservices, Event-Driven Systems, Distributed Processing

**Databases:** PostgreSQL, MongoDB, Redis, DynamoDB

**Cloud/Infra:** AWS (SQS, Lambda, Cognito), Docker, Nginx, Terraform

**Practices:** Caching, Queue Processing, Concurrency Control, API Security

**Tools:** Git, Bitbucket, CircleCI, Postman, Swagger

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## EXPERIENCE

### Backend & Blockchain Developer — Emertech Innovation

Jul 2023 – Present

#### Microservices Processing Platform

- Designed backend microservices and MongoDB schema for a distributed processing system.
- Built an async pipeline using **AWS SQS + workers** for high-volume processing.
- Migrated Lambda workloads → **Dockerized services**, improving execution predictability and reducing latency.

- Enforced **RBAC / ABAC authorization** and token-based authentication.
- Enhanced system reliability using queue isolation, retries, and stateless services.

### Blockchain Traceability Platform

- Built a backend supporting blockchain-based asset traceability.
- Enabled tracking of **1.7M+ assets** in the production environment.
- boosted throughput via horizontal scaling.
- Reduced query latency via indexing and query tuning.

### Inventory Management System

- Architected backend supporting **real-time inventory + transactional workflows**.
  - Designed PostgreSQL schema with strong constraints and indexing.
  - Implemented Redis caching → reduced DB load and enhanced response latency.
  - Applied concurrency-safe updates, preventing race conditions.
  - Configured Nginx load balancing and deployed services on AWS.
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## BACKEND STRENGTHS

- Scalable API Design
  - High-Concurrency Data Systems
  - Async Processing (Queues / Workers)
  - Database Performance Optimization
  - Production Debugging & Reliability
  - Secure Auth & Access Control
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## EDUCATION

**B.Tech. Computer Science** — SGU University (2023)  
CGPA: 8.0

## Personal User Cases:

1. **Zahabi**: A platform revolutionizing gold investment using blockchain technology, focused on assisting lenders in monetizing their idle gold assets.
2. **Lienstack**: An asset-backed refinancing platform.