

Ayan Modak

☎ 918208390973 | ✉ modakaryan11@gmail.com | 🌐 oxby7e | 🌐 ayanmodak.info | 📄 ayan-modak

EXPERIENCE

Emertech

Jun 2023 – Present

Ex-fusion ([link](#))

Tokyo, Japan

- **Designed backend microservices** and **MongoDB schema** for a distributed processing system handling **5,000+** jobs/day
- Built an **distributed asynchronous processing pipeline** using **BullMQ (Redis)** and worker services, improving throughput by **45%** and reducing failed jobs by **60%**.
- Migrated **Lambda** workloads to **Dockerized services**, reducing latency from **1,200 ms** to **450 ms** and improving **execution predictability**.
- Implemented **RBAC/ABAC authorization** with **token-based authentication** across **5+ microservices**.

EmerTrees (Product Traceability SaaS Platform) ([link](#))

- **Developed backend services** for a **blockchain-enabled product traceability platform** used to track product provenance and **lifecycle events** across **supply chains**.
- Enabled traceability for **1.7M+ product units**, supporting **real-time visibility, compliance reporting, and auditability**.
- Reduced query latency from **850 ms** to **300 ms** through **MongoDB query optimization, indexing strategies, and aggregation pipeline tuning**
- Built and maintained **REST APIs, event-processing services, and data models** supporting **high-volume traceability operations**

PROJECTS

Zahabi ([link](#))

- Designed backend services for a **blockchain-based gold tokenization** platform enabling **1:1 backed** digital assets.
- Implemented smart contract integrations and transaction workflows for **lenders, borrowers, and investors**.

Graveledger ([link](#))

- Developed **geospatial search** and **mapping services** for digitized cemetery records.
- Built scalable APIs for **archival search** and **location-based navigation**.

EDUCATION

Sanjay Ghodawat University

jun 2019 – jun 2023

Bachelor in Computer Science

Kolhapur, MH

SKILLS

Languages : Python, JavaScript, TypeScript, SQL (PostgreSQL, MySQL)

Backend : Node.js, Express.js, NestJS, REST APIs, GraphQL, gRPC, WebSockets,

Databases Messaging : MongoDB, PostgreSQL, MySQL, Redis, DynamoDB, Elasticsearch, BullMQ, Kafka, SQS

Cloud DevOps : AWS (EC2, S3, Lambda, SQS, ECS, CloudWatch), Docker, Linux, Kubernetes (EKS), Nginx, Terraform, CI/CD

Architecture : Distributed Systems, Event-Driven Architecture, Microservices, Async Processing, Message Queues, RBAC/ABAC, JWT, OAuth 2.0, API Gateway, Rate Limiting, Circuit Breaker, Caching, Horizontal Scaling, Load Balancing

Testing Observability : Jest, Integration Testing, OpenAPI/Swagger, Postman, Prometheus, Grafana, CloudWatch