Md. Abu Tahshin

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Experience

Shikho Technologies Ltd. *Software Engineer (Back-End) (January 2025 – Present)*
Dhaka, Bangladesh

Technical Skills

Languages:	Golang, Python, C, C++
Databases:	PostgreSQL, MySQL, MongoDB, ArangoDB, Elasticsearch
Tools & Platforms:	Git, Docker, Kubernetes, Terraform, Ansible, RabbitMQ, Redis, NATS, Grafana, Linux, Bash Scripting, Docker Compose, CI/CD, GitHub Actions
Cloud Platforms:	AWS (EC2, S3, Amplify, DynamoDB, Lambda, IAM, CloudWatch, ECR, VPC, EKS)
Concepts:	Clean Architecture, REST, gRPC, DevOps, GraphQL

Projects

Shikho Technologies

Dynamic QR-Based FutureBook — *Shikho Technologies, Dhaka, Bangladesh*

- Backend system linking physical textbooks to digital content via dynamic QR codes, supporting multi-year programs, entitlement enforcement, quizzes, analytics, and CMS-controlled QR lifecycle.
- Designed the multi-tenant data model, entitlement checks, and analytics event streaming for per-student QR engagement tracking. **Technologies:** Golang, GraphQL, REST API, MongoDB, Redis.

Alor-Shikha – Online Educational Quiz Platform — *Shikho Technologies, Dhaka, Bangladesh*
Alor-Shikha.com

- Online educational quiz platform serving weekly exams, scoring, leaderboard, and progress tracking for students at scale.
- Built and maintain weekly exam, scoring, and leaderboard APIs with Redis caching delivering **sub-100ms reads under peak submission load**. **Technologies:** Golang, Redis, GraphQL, REST API, MongoDB.

Focus Hub – Real-Time Analytics Pipeline — *Shikho Technologies, Dhaka, Bangladesh*

- Real-time analytics pipeline streaming document-level changes into a pre-aggregated PostgreSQL table without adding load to the transactional database.
- Built the change-stream consumer and message broker pipeline; designed idempotent, replay-safe workers and the aggregated schema. **Technologies:** Golang, MongoDB, NATS, PostgreSQL.

Partner-Campaign & API-Client Platform — *Shikho Technologies, Dhaka, Bangladesh*

- API-key platform for external partners to access campaign APIs via client-specific, scope-restricted keys.
- Built key generation, per-client auth, and resource scoping. **Technologies:** Golang, GraphQL, REST API, MongoDB.

CQ Formatter – AI-Assisted Bulk Question Ingestion — *Shikho Technologies, Dhaka, Bangladesh*

- Internal tool for bulk CQ content ingestion into the exam system from image and document uploads.
- Integrated Gemini API for content extraction, cutting manual data-entry by ~**70%**. **Technologies:** Golang, Gemini API, REST API, MongoDB.

Production Migrations & Cron Jobs — *Shikho Technologies, Dhaka, Bangladesh*

- Ran production migrations: auth system (**6M records**), video URL provider (**2M docs**), zero data loss with rollback checkpoints.
- Built cron jobs for daily result publishing, finished-chapter updates, and user activity mismatch reconciliation.

DevOps Projects

DevSecOps Agent – Automated Security Inspection Platform — *Personal Project*
Demo Video

- Web-based security inspection platform automating vulnerability detection across Docker containers and cloud infrastructure (AWS, GCP, Azure), generating AI-powered risk reports with remediation guidance.
- Built backend API with WebSocket real-time progress streaming, CVE detection via **Trivy**, and **GPT-4o-mini** powered contextual risk analysis with fallback rule-based engine covering 15+ security checks.
- **Technologies:** Docker, Trivy, OpenAI GPT-4o-mini, WebSocket, AWS/GCP/Azure APIs, SQLite.

Expense Tracker – MERN + Docker Compose — *Personal Project*
Demo Video

- Full-stack expense tracker with CRUD, category filtering, date range search, and CSV export, served via NGINX reverse proxy.
- Wrote **Dockerfiles** for frontend (React + NGINX) and backend (Express); orchestrated with **Docker Compose**; deployed to **AWS EC2** with automated Docker setup and single-command launch.
- **Technologies:** Docker, Docker Compose, NGINX, AWS EC2.

CloudMentor – AI Learning Assistant — *Personal Project*
GitHub

- Teaching-friendly AI assistant for generating quizzes, flashcards, and study plans from uploaded materials, deployed as a serverless AWS application.
- Deployed via **GitHub Actions** CI/CD + **AWS SAM** (CloudFormation) provisioning Lambda, API Gateway, S3, DynamoDB, and CloudWatch; React frontend published to **EC2 + Nginx** via rsync.
- **Technologies:** GitHub Actions, AWS SAM, Lambda, API Gateway, S3, DynamoDB, EC2, Nginx.

Achievements

Solved 1000+ Programming Problems on Online Judges
Codeforces | **LeetCode**

- Cumulative record across Codeforces, LeetCode, and StopStalk.

IEEEXtreme Programming Competition 17.0
Team: ARSfire

- Rank: **6th in Bangladesh** and **1162 globally** out of **7091 teams**.

ICPC Asia Regional Contest 2023
Team: JnuLazyPenguin

- Participated in the ACM-ICPC Asia Regional Contest.

JNU Intra University Programming Contest 2023
1st Runner Up

- Ranked **2nd out of 50 participants**.

UITS IUPC 2023
Team: JnuLazyPenguin

- Ranked **26th**.

Extracurricular Activities

Lead Organizer, JNU IUPC — *Jagannath University* 1 March 2024
Dhaka, Bangladesh
Event Link

- **Problem Setter** for the contest.
- Organized volunteers and distributed tasks.
- Communicated between teachers, students, and alumni.