MD. SHOUROV

Software Engineering Undergraduate · Institute of Information Technology (IIT), University of Dhaka

Dhaka, Bangladesh • **mdshourov735@gmail.com** • **mdshourov.vercel.app** • **github.com/Shourov735** • **linkedin.com/in/md-shourov-613934358** • **Codeforces: Shourov735 (150+ Solved)**

EDUCATION

Institute of Information Technology (IIT), University of Dhaka — B.S. in Software Engineering **2024 – Present**

- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming (Java/C++), Design Patterns, Database Management Systems, Software Requirements Analysis, Computer Architecture, Discrete Mathematics.
- **Admission Record:** Secured top national merit rank in the University of Dhaka Engineering Admission Test (Rank: 735).

EXPERIENCE & LEADERSHIP

IT Secretary & Lead Platform Architect — Nabodigonto Social Welfare Organization **Dec 2024 – Present**

- Appointed to executive board as **IT Secretary** after independently architecting and deploying the organization's core digital platform.
- Designed **Blind Audit Protocol & Double-Signed Verification**, cryptographically concealing treasury balances until dual-officer sign-off.
- Built dynamic **3D-flip digital member ID cards** with public QR verification and automated print-ready PVC batch layouts.
- Streamlined monthly statement turnaround with automated dues tracking, instant receipt issuance, and SHA-256 verified PDF audit reports.

FEATURED TECHNICAL PROJECTS

Nabodigonto Platform | *Next.js 16, Cloudflare Workers, Neon PostgreSQL, Prisma, Clerk v7, Tailwind CSS* **Live Demo ↗ · GitHub ↗**

- Production community and treasury platform deployed serverless on Cloudflare Workers via OpenNext with global edge caching.
- Integrated multi-tenant dues tracking, automated financial statements, and role-based officer permissions with Clerk auth.

InsideJibon EdTech Platform | *Next.js 16, Cloudflare Workers & Durable Objects, Workers AI, Vectorize, Drizzle ORM, Neon PostgreSQL, Clerk* **Live Demo ↗ · GitHub ↗**

- Engineered a high-performance bilingual (EN/BN) EdTech platform on Cloudflare Workers featuring real-time live classrooms via Durable Objects (WebSockets, presence, chat) and zero-cost YouTube live integration.
- Integrated in-house AI tutor with Workers AI & Vectorize RAG indexing video auto-captions with exact-second citations, plus Duolingo-grade study streaks and parent oversight portals.

Remocomp — Remotion Component Registry | *Remotion 4, React 19, TypeScript, Cloudflare Workers, D1 & R2, Drizzle ORM, MCP* **Live Registry ↗ · npm ↗**

- Built an open-source registry of frame-accurate Remotion components installed by copying source into the user's repo, served from Cloudflare Workers with D1 full-text search (FTS5) and R2 storage for zero-egress delivery.
- Designed a token-budgeted discovery API (~200 tokens for a five-result search vs ~600 for a single prop schema) exposed via an npm CLI, a stdio MCP server, and REST, with a 14-rule AST quality gate shared across browser, edge, and CI.

Quiz Management & Examination System | *Java 17, JavaFX 21, SQLite, Design Patterns, JUnit 5, Maven* **GitHub ↗**

- Engineered desktop examination suite for IIT DU Design Patterns Lab (Mini-SPL) implementing **GoF patterns**: *Strategy* (scoring engines), *State* (quiz lifecycle), *Factory* (question authoring: MCQ, True/False, Fill-in, Multi-answer), and *Observer* (countdown & event pub/sub).
- Implemented relational persistence using SQLite via JDBC, automated schema migration, and comprehensive test suite with JUnit 5.

Quran Reading Tracker | *React Native, Expo, SQLite / AsyncStorage, TypeScript, Mobile Android* **GitHub ↗**

- Architected offline-first Android application with zero cloud telemetry, ensuring complete privacy and 100% local persistence.
- Engineered dual-pipeline daily habit tracking for Arabic recitation and Bengali translation with custom streak calculation algorithms.

TetriC — Multiplayer Terminal Game | *C, POSIX Socket Programming, Multi-threading (pthreads), Non-blocking I/O* **GitHub ↗**

- Engineered networked multiplayer console Tetris in raw C using POSIX TCP sockets, non-blocking I/O, and client-server architecture.
- Designed custom binary packet serialization protocol, real-time board state synchronization, and ANSI terminal rendering engine.

OPEN SOURCE & HONORS

romankh3/image-comparison | *Open Source Contributor (PR #255) — Maven Central Library (1,000+ Stars)* **2025**

- Contributed enhancements to Maven Central visual regression testing library; improved diffing accuracy and expanded JUnit 5 test suites.

Competitive Programming Achievement | *Codeforces & LeetCode* **2022 – Present**

- Solved **150+ algorithmic problems** across Codeforces and LeetCode; regular participant in National Collegiate Programming Contests (NCPC).

TECHNICAL SKILLS

Languages:	C++, C, Java, Python, TypeScript, JavaScript, SQL, HTML/CSS
Frontend & Mobile:	React, Next.js 16, React Native / Expo, Tailwind CSS, JavaFX
Backend & Cloud:	Cloudflare Workers & R2, Cloudflare D1, Node.js, PostgreSQL (Neon), SQLite, MongoDB, Supabase, MySQL, Prisma, Drizzle ORM, REST APIs
DevOps & Tools:	Git, GitHub, Linux / Bash, Socket Programming, Docker, Vercel, Maven, JUnit 5, VS Code