

Sabbir Hossain

SOFTWARE ENGINEER

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Software engineer with international recognition, including placements in the International Blockchain Olympiad 2024 (Netherlands), MasterZ Blockchain & Digital Assets 2023 (Italy), and the Bangladesh Blockchain Olympiad 2023 & 2024. Computer-science background with a technical focus on blockchain architecture for healthcare, smart-contract development, data security, interoperability and protocol design, digital identity and clinical-data frameworks, and decentralized infrastructure for health systems.

TECHNICAL SKILLS

Languages	TypeScript (~5.9, primary across API / web / libs / scripts / IaC), JavaScript (ESM .mjs/.cjs), Solidity 0.8.28 (EVM London), Java, Python, C, Chaincode, HCL (Terraform), Bash / PowerShell, SQL (Postgres)
Frontend	React 19, Vite 7, Wouter, Tailwind CSS 4 (+ typography, tw-animate-css), Radix UI + shadcn-style (CVA, clsx, tailwind-merge), TanStack React Query, Zustand, React Hook Form + Zod, Framer Motion, Recharts, Lucide / React Icons, Next.js, HTML / CSS
Web3 & Maps	wagmi + viem + RainbowKit (WalletConnect), Three.js (3D), next-intl (EN/AR i18n), Sentry React, Socket.IO client, Google Maps (@vis.gl/react-google-maps), Leaflet / React-Leaflet, qrcode, libphonenumber-js
Backend	Node.js 20, Express 5 (TypeScript, esbuild), Prisma 5 ORM on PostgreSQL (migrated from Drizzle), Redis (ioredis) sessions + BullMQ queues, Socket.IO, node-cron, REST APIs, GraphQL, gRPC
Auth & Security	JWT (jsonwebtoken), bcryptjs, TOTP 2FA (otplib + qrcode), helmet, cors, express-rate-limit, cookie-parser, DOMPurify / jsdom sanitization
Blockchain	ethers v6 + viem, Safe (Gnosis) SDK (protocol-kit, api-kit) multisig, Hardhat (+ toolbox, Ignition), Solhint, OpenZeppelin Contracts 5.0.2, ERC-721 / ERC-1155 / ERC-2981 (URIStorage, Pausable, AccessControl), Hyperledger Besu 24.12.2 (IBFT 2.0, permissioned, zero-gas), Hyperledger Fabric / Chaincode
Databases	PostgreSQL 16 (RDS / embedded-postgres), Prisma + legacy Drizzle migrations, Neon serverless driver, Redis 7 (cache + queue), MySQL, CouchDB, LevelDB, IPFS
Cloud & DevOps	AWS (ECS Fargate, ECR, ALB, CloudFront + ACM, S3, RDS, ElastiCache, Secrets Manager / SSM, KMS, WAFv2, CloudWatch + SNS, VPC, EC2, IAM, Auto Scaling, cross-region DR, Lambda), Terraform ≥1.6 (S3 state), Docker (multi-stage, non-root) + Compose, GitHub Actions CI/CD (deploy, Terraform plan, GitOps drift, DB migration, rollback), Kubernetes
Media & Comms	Sharp (images), PDFKit, image-size, Multer (uploads), Nodemailer + AWS SES (email), Twilio (SMS / OTP)
Observability	Sentry (node + profiling), OpenTelemetry, Pino logging
Tooling & Test	pnpm 10 workspaces (catalog, supply-chain guard), Orval (typed API client + Zod schemas), Prettier, ESLint / lint-staged, Husky, tsx, Vitest + Supertest + ioredis-mock, autocannon (load testing)
Integrations	Absher (Saudi national-ID KYC — OAuth), Twilio, Sentry, Google Maps, WalletConnect, AWS SES
AI	Large Language Models (pretrained + fine-tuning), Retrieval-Augmented Generation (RAG), Data Engineering, Model Architecture
Leadership	Team leadership, mentoring, vendor relationship management, operational efficiency, executive coordination of day-to-day business activities

PROFESSIONAL EXPERIENCE

FOUNDER & PRESIDENT

Patient Bio, HealthTech Startup — Remote / Global

Mar 2023 – Present

Founded a healthcare data platform that analyzes patient health data and enables secure transfer of medical records globally.

HEALTHCARE DATA ANALYST & RESEARCH FELLOW

Global Health Research Center (Contract) — Daffodil Smart City, Dhaka

Mar 2025 – Present

Advance health innovation beyond data collection, contributing to smarter, stronger and more resilient global health systems.

CHIEF TECHNOLOGY OFFICER

Schoolxnow (Part-Time) — Uttara, Dhaka, Bangladesh

Sep 2024 – Present

Lead a comprehensive digital platform for Bangladeshi educational institutions — managing students, teachers, fees, attendance and more in one integrated solution.

BLOCKCHAIN ENGINEER

MasterZ Blockchain & Digital Assets (Seasonal) — Rome, Italy

Oct 2022 – Apr 2023

Merit scholarship for the 4th MasterZ by Algorand Blockchain Lab (U25). Top-4 project winner across Asia–Europe–Middle East for the Patient-Bio solution, with an in-depth research paper on the CELO protocol.

ENGLISH & MATHEMATICS TEACHER

Hasen Ali Prodhan Memorial School — Gazipur, Bangladesh

Jun 2020 – Dec 2021

Taught with the goal of helping students become good people who serve their country through education.

ADVANCED TRAINING

2025 Aspire Leaders Program (6 weeks)

Leadership Development, Aspire Institute, Cambridge, USA · Mar–Jul 2025

Project Management (6 months, 10 hrs/wk)

Google Cloud, Coursera · Feb 2024

Blockchain Specialization (6 months, 12 hrs/wk)

MasterZ Blockchain & Digital Assets, Rome, Italy · Oct 2022 – Apr 2023

INTERNATIONAL AWARDS

Award of Merit (6th) — International Blockchain Olympiad 2024

10-day industry visit + 2-day main round, Amsterdam, Netherlands · Nov 2024

Award of Merit (4th) — MasterZ Blockchain & Digital Assets

MasterZ by Algorand Blockchain Lab (U25), Rome, Italy · Apr 2023

NATIONAL AWARDS

Semi-Finalist (17th) — Startup World Cup Bangladesh 2025 Aug 2025

1st Runner-up — SPARK: Startup Challenge 2025 Feb 2025

Award of Merit (5th) — Bangladesh Blockchain Olympiad 2024 Nov 2024

Counterfeit Medicine Detection — DIU-DoR Poster 2025 May 2025

Semi-Finalist — The Hult Prize 2025 Feb 2025

Award of Merit — Bangladesh Blockchain Olympiad 2023 Nov 2023

EDUCATION

B.Sc. Computer Science & Engineering (Software & Hardware)

Daffodil International University, Savar, Bangladesh · Jan 2022 – Dec 2025

Science

Gazipur City College · Jul 2017 – Aug 2019

CERTIFICATIONS

NFT Course — Create & Investment, Udemy Aug 2024

Data Structures & Algorithms, Udemy Dec 2023

Git & GitHub, Udemy Apr 2023

Ethereum & Solidity — Advanced Smart Contracts, Udemy Apr 2023

Blockchain Developer, Simplilearn Mar 2023

Docker, Programming Hub Mar 2023

Hyperledger Fabric, Programming Hub Jul 2022

MENTORSHIP & GUIDANCE

Bangladesh Blockchain Olympiad 2025 (22 teams, BCOLBD International); WICE 2025 International Robotics Competition (1 team).