

Md Nasimul Hasan

JR. SOFTWARE ENGINEER

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🌐 Portfolio | 🔄 saadh393 | 📄 saadh393

Software engineer with **five years of professional experience** building production web products, backed by **12 years of hands-on programming**. I work across the full delivery lifecycle, from user-facing applications and backend APIs to cloud deployment and production operations, building **reliable, scalable, and cost-efficient systems** in **JavaScript, React, Next.js, Node.js, and AWS**.

10,000+ students served

2 Cr+ BDT annual revenue

2.2M active users reached

Zero-downtime deployments

TECHNICAL SKILLS

LANGUAGES	JavaScript, TypeScript, Python, PHP
FRONTEND	React, Next.js (App Router), Redux, Tailwind CSS, Sass, React Native
BACKEND	Node.js, Express, FastAPI, REST API design, Socket.io, Prisma, Mongoose, BullMQ
DATA	MongoDB, PostgreSQL, MySQL, Redis, Pinecone (vector search)
CLOUD & OPS	AWS (EC2, S3), GCP, Cloudflare (Workers, CDN, D1), Docker, Nginx, MinIO
OBSERVABILITY & TESTING	Sentry, Grafana, Prometheus, Loki, Jest

EXPERIENCE

Learn with Sumit [↗](#)

April 2021 - Present · Remote

Jr. Software Engineer

Ed-tech company building learning and event platforms for the Bangladeshi developer community.

- Own and evolve the core learning management platform built with Next.js, Node.js, and MongoDB, serving **10,000+ learners** and supporting more than **2 crore BDT in annual revenue**, while contributing to product decisions, system design, and production delivery.
- Designed and deployed a production-grade, device-bound authentication system using non-exportable ECDSA keys, signed requests, replay protection, device-slot enforcement, token rotation, and session revocation, preventing stolen or shared cookies from being used on unregistered devices.
- Built the registration and payment workflow for **DevConf**, reliably processing **~68 payment requests per second** during peak registration periods.
- Delivered **HLS video streaming** and playback-based watch-time tracking, enabling course progress and completion to be measured from actual viewing activity.
- Delivered payment gateway integrations, multi-course enrollment, quizzes, and assignments across the frontend, backend, and data layers.
- Deploy and operate the production platform on **AWS using Docker, Nginx, Cloudflare, and Sentry**, supporting reliable releases, traffic monitoring, and production troubleshooting.

Analyzen [↗](#)

August 2021 - January 2025 · Dhaka, Bangladesh

Jr. Software Engineer (Aug 2022 - Jan 2025) · Jr. Frontend Developer (Aug 2021 - Jul 2022)

Digital solutions agency building enterprise web, mobile, fintech, and social-media platforms for leading brands.

- Delivered production **React and Next.js applications** for enterprise clients including Unilever, Evercare, AKASH, Bengal Meat, and Berger, working across frontend development, API integration, and deployment.
- Modernized the frontend of **MICROZEN** [↗](#), an enterprise microcredit automation platform, improving interface consistency, usability, application structure, and runtime performance.
- Supported MICROZEN's production infrastructure through **application deployment, cross-server backups, and server-to-server communication**.
- Developed backend integrations for **LISTENYZEN** [↗](#), an omnichannel social-media servicing platform, implementing Facebook SDK-based messaging and SMS communication workflows.
- Delivered **Unilever Frontline Academy**, a learning platform for Unilever's frontline workforce across Bangladesh, alongside additional enterprise dashboards and digital products.
- Promoted from Jr. Frontend Developer to Jr. Software Engineer based on delivery performance and expanded ownership across frontend, backend, and infrastructure responsibilities.

EXPERIENCE (CONTINUED)

Independent Contract

2025 - Present · Remote

Frontend & Platform Engineer

Offer Finder [🔗](#), a campaign and merchant discovery platform for bKash, Bangladesh's largest mobile financial service.

- Built the **Next.js 16 server-rendered platform** that reached approximately **2.2 million active users in Bangladesh** within one month.
- Achieved verified Lighthouse scores of **100 performance, 99 accessibility, 100 best practices, and 100 SEO** through server rendering, streaming, caching, and frontend optimization.
- Eliminated oversized client payloads by moving filtering to the server, reducing merchant-search transfers from over **15 MB** and replacing approximately **12 MB** campaign responses with bounded queries, field selection, request cancellation, and pagination.
- Designed a **cost-efficient production architecture** running critical application and backend workloads on a two-vCPU origin, using Cloudflare caching and clustered Node.js workers to cut origin traffic and resource use.
- Kept the **backend and database isolated from the public internet**, exposing only controlled application entry points through Cloudflare and Nginx.
- Implemented a **zero-downtime blue-green deployment** with Docker, Nginx, and health checks, eliminating the previous two-to-four-minute outage during releases without increasing infrastructure cost.
- Added **Sentry observability** across browser, server, and edge runtimes to monitor production errors and latency.

SELECTED PROJECTS

Distributed HLS Streaming Platform

[🔗 Repository](#)

Independent Systems Engineering Project

Designed a five-service video pipeline to explore how large-scale streaming systems separate ingestion, CPU-intensive processing, storage, metadata, and playback. BullMQ and Redis move FFmpeg transcoding off the request path, producing four adaptive HLS renditions with AES-128 encrypted segments stored in MinIO and streamed through HLS.js. Documented the remaining production-hardening work, including retries, dead-letter handling, observability, testing, and CI/CD.

Stack: Node.js, TypeScript, Express, FFmpeg, BullMQ, Redis, MinIO, PostgreSQL, HLS.js, Docker Compose

Semantic Product Search API

[🔗 Repository](#)

Independent AI/Search Engineering Project

Built a semantic search API over 12,000 Amazon product records that retrieves products by user intent rather than exact keywords. Pinecone performs vector similarity search, while an optional second stage uses Gemini to rerank 20 candidates and return the five most relevant results. Added metadata filtering, SHA-256-keyed LRU caching, rate limiting, and asynchronous FastAPI execution, with observed response times of roughly 20ms for cached queries and 300 to 500ms for direct search.

Stack: Python, FastAPI, Pinecone, Google Gemini, Pandas, Docker

SSHM, terminal SSH connection manager

[🔗 Repository](#)

Go CLI that stores SSH hosts by alias and connects through a fuzzy-searchable terminal UI, so IP addresses and long ssh invocations no longer have to be remembered.

Stack: Go, Cobra, Bubble Tea, Lip Gloss

WRITING & OPEN SOURCE

Adapter and Port Architecture in Two Real Codebases [🔗](#)

HTTP Caching in Node.js with Undici v7 [🔗](#)

Why AI Coding Agents Cost So Much [🔗](#)

JavaScript Execution Context [🔗](#)

The Node.js Event Loop, Explained Properly [🔗](#)

How Diffie-Hellman Became the Backbone of Encryption [🔗](#)

Understanding Idempotency in Distributed Systems [🔗](#)

Concurrency, Parallelism, and Sequential Execution [🔗](#)

Open source: contributed to [react-bits](#) (issue #278), diagnosing a broken search interface in a widely used React pattern library.