

MOHIT RAJBHANDARI

Full Stack Engineer

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Professional Summary

Full Stack Engineer with 3+ years of experience architecting distributed systems, blockchain infrastructure, and production web applications. Built platforms supporting humanitarian programs delivered by **UNICEF**, **Nepal Red Cross Society (NRCS)**, and **MCN**, with expertise in backend systems, offline-first applications, and technical leadership engineers through code reviews and technical discussions.

Professional Experience

Software Engineer

Feb 2026 – Present

Rumsan Associates

Supported humanitarian technology initiatives delivered by **UNICEF**, **Nepal Red Cross Society (NRCS)**, and **MCN**, building scalable digital cash assistance platforms, offline-first distribution systems, blockchain infrastructure, and operational software used during disaster response initiatives.

- Architected and led development of the **Cash Voucher Assistance (CVA)** platform, enabling **50 concurrent vendors** to independently process transactions across a **10,000+ beneficiary** pool while introducing offline redemption capabilities that ensured uninterrupted field operations during low-connectivity deployments.
- Owned the end-to-end design and implementation of the **Group Cash Transfer (GCT)** platform, building beneficiary validation, payout orchestration, polling-based bank verification, skip-OTP workflows, and operational dashboards supporting humanitarian cash distribution.
- Led development of the **In-Kind Distribution Platform**, designing administrative and vendor applications supporting blockchain-backed token redemption, offline synchronization, multi-project deployments, dynamic organization routing, transaction logging, and audit-ready reporting.
- Designed distributed transaction infrastructure by introducing **SAGA orchestration**, Redis-backed synchronization, and dedicated BullMQ queue serialization, eliminating duplicate blockchain nonce allocation while improving consistency and throughput across concurrent financial workflows.
- Architected a configurable blockchain abstraction layer supporting both **Stellar** and **Ethereum (EVM)** networks, implementing sponsored wallet provisioning, automated account creation, vendor funding, redemption pipelines, and transaction tracking without requiring beneficiaries to manage blockchain wallets directly.
- Designed a tenant-aware authorization framework using **CASL**, separating authorization policy from application logic and enabling organization-specific permission models across multiple humanitarian platforms without code duplication.
- Built operational infrastructure including Docker Swarm, Proxmox, Cloudflare Tunnel, automated GLOFAS flood forecasting pipelines, scheduled CRON jobs, Google Sheets integrations, and production deployment tooling supporting development, demonstrations, and disaster-response operations.
- Led weekly sprint planning, feature estimation, architecture discussions, pull request reviews, production debugging, technical demonstrations, and mentoring for junior engineers while collaborating closely with Business Analysts, QA Engineers, and humanitarian stakeholders throughout the software delivery lifecycle.

Full Stack Engineer / Project Lead

Jan 2024 – Oct 2025

Unicollab

- Designed and developed the **Unicollab** platform from the ground up, implementing authentication, role-based access control, project collaboration, recruitment workflows, analytics dashboards, and scalable application pipelines.
- Led technical delivery across multiple client engagements, owning sprint planning, feature prioritization, technical architecture, implementation, code reviews, stakeholder communication, and final demonstrations from project initiation through deployment.
- Managed cross-functional collaboration between engineering teams and clients, translating business requirements into maintainable software while ensuring predictable delivery through structured planning and iterative releases.

- Performed full-stack code reviews and provided technical mentorship to engineers, improving maintainability, consistency, and engineering quality across shared repositories.

Software Engineer

Apr 2023 – Feb 2026

Iruka Technologies

- Led frontend engineering across production warehousing, enterprise, and eCommerce platforms using React, Next.js, and TypeScript, delivering complete customer-facing experiences from architecture through deployment.
- Improved application performance through Server-Side Rendering (SSR), Incremental Static Regeneration (ISR), optimized pagination, efficient client-side rendering strategies, and reusable component abstractions that reduced rendering overhead and improved responsiveness.
- Published reusable internal UI component libraries adopted across multiple projects, accelerating development while maintaining consistency with the organization's shared design system.
- Collaborated closely with backend engineers to design, validate, and integrate production APIs, ensuring frontend implementations accurately reflected real operational workflows while maintaining scalability and long-term maintainability.

Selected Project

Bus Management System

Designed and developed a university-scale transportation management platform supporting student admissions, route scheduling, payments, QR-based verification, fleet administration, and operational reporting.

- Designed role-based administration modules supporting students, transport operators, finance staff, and administrators through a unified platform.
- Implemented QR-based verification workflows and automated scheduling features, improving operational efficiency across multiple transportation routes.
- Built scalable backend and frontend architecture capable of supporting concurrent administrative operations while maintaining data consistency.
- Currently undergoing migration and security testing in collaboration with Kathmandu University's Information Management team.

Education

Bachelor of Computer Engineering

2021 – 2025

Kathmandu University

CGPA: 3.73

Technical Expertise

Languages	TypeScript, JavaScript, Python
Frontend	React, Next.js, HTML5, CSS3
Backend	Node.js, NestJS, Express
Databases	PostgreSQL, Redis
Distributed Systems	BullMQ, Redis Streams, Event-Driven Architecture, SAGA, Microservices
Blockchain	Stellar, Ethereum (EVM), Smart Contract Integration
Infrastructure	Docker, Docker Swarm, Proxmox, Cloudflare Tunnel, AWS, Linux
Engineering	REST APIs, RBAC, CASL, Offline-First Applications, CI/CD