

MIR RAHAT HASAN RAFI

Software Engineer

Bachelor of Technology

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🐙 GitHub Profile

🌐 LinkedIn Profile

EDUCATION

• Bachelor of Science in Computer Science and Technology

2018-2022

Nanjing University of Information Science and Technology, Nanjing, China

EXPERIENCE

• Hyper Systems Ltd.

October 2022 - Current

Backend Developer

- Designed scalable microservices with NestJS & Node.js, integrating TypeORM, PostgreSQL (partitioning, replication setups) to ensure high availability and optimized query performance.
- Constructed and deployed event-driven architectures using Kafka, NATS, and gRPC, improving inter-service communication reliability and system throughput
- Implemented Redis caching, pub/sub, and session management, significantly reducing latency and enabling real-time product tracking features
- Designed, containerized, and deployed Node.js microservices using Docker and Docker Compose, enabling consistent development environments, simplified deployments, and seamless scaling across multiple environments

• Inovetix

8 Months

Backend Developer

Remote

- Developed and maintained scalable backend services using NestJS, implementing clean architecture and modular design for high-performance APIs.
- Designed and deployed event-driven microservices with NATS streaming, enabling reliable communication, fault tolerance, and horizontal scalability across distributed systems.
- Implemented Redis-based caching, pub/sub, and session management to optimize response times and support real-time features.

PROJECTS

• Offline meter - (Node.js, MongoDB, VPN, DC/DR, Docker, Redis, Hybrid Security)

Designed and developed Offline Meter Recharge System to recharge Utility Meter through **Bkash App**

- Engineered the backend for an offline meter recharge system integrated with the **bKash app**, ensuring secure and seamless transaction processing.
- Designed and implemented a high-availability MongoDB replication setup for consistent and fault-tolerant data storage.
- Implemented a hybrid security architecture combining symmetric and asymmetric encryption to ensure secure SDK transactions, user data privacy, and backend communication.
- Built a robust API layer to handle SDK interactions, transaction validation, and recharge status updates

• RMS – Remote Monitoring System (Node.js, WebSocket, PostgreSQL, Redis-timeseries, Docker)

An IoT-based monitoring solution for tower infrastructure, enabling live sensor data analytics, and remote observability.

- Designed and implemented real-time sensor data transformation pipelines, reducing latency in analytics by ~30%.
- Integrated multiple communication protocols including MQTT, TCP, and WebSocket to support diverse sensor data ingestion.
- Engineered a resilient backend in Node.js capable of handling thousands of concurrent device connections.
- Integrated MQTT, TCP, and WebSocket protocols, supporting over 5,000+ concurrent sensor nodes.

• MyRadar – Real-time Vehicle Tracking System (Node.js, WebSockets, MongoDB, Redis, DC/DR)

Built a live vehicle tracking system with low-latency live location updates and high availability through DC/DR architecture.

- Developed and maintained a real-time vehicle tracking platform capable of handling high-frequency GPS updates via TCP, ensuring low-latency data streaming and bi-directional communication between clients and server .
- Architected the backend system using Node.js with an event-driven, non-blocking I/O model to handle thousands of concurrent connections.
- Implemented failover handling via DC/DR strategies, achieving 99.95% system uptime in production.

TECHNICAL SKILLS AND INTERESTS

Languages: Javascript, Typescript, SQL, HTML, CSS

Libraries : NodeJs, NestJs, WebSocket, MQTT, gRPC, Kafka, RabbitMQ, ReactJs, Tailwind, NextJs, Redux Toolkit,

Tools: VScode, Git, Github, Jest, Cypress, Jenkins

Cloud/Databases: MongoDB, Relational Database(mysql, PostgreSQL),Redis, AWS

Soft Skills: Problem Solving, Self-learning, Adaptability