

Madhan Kumar R

Senior Backend Engineer | Banking & Fintech Systems

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PROFESSIONAL SUMMARY

Senior Backend Engineer with **5 years 8 months of experience** building **secure, scalable banking and fintech systems**. Strong expertise in **Node.js, NestJS, Python, FastAPI, Kafka, and Docker**, with deep experience in **event-driven architectures, debit card issuance workflows, and third-party banking integrations**. Currently working on **enterprise-grade backend systems for Emirates NBD Bank** via D4Insight, delivering reliable, compliant, and high-availability services. Proven track record in system reliability, performance optimization, and production stability.

PROFESSIONAL EXPERIENCE

D4 Insight Pvt Ltd – Chennai, India

Senior Backend Engineer | *Dec 2024 – Present*

Client: Emirates NBD Bank (UAE)

Technologies: Node.js, NestJS, Kafka, REST APIs, Banking Integrations

- Working as a **Senior Backend Engineer** on **core banking backend systems** supporting **debit card issuance and lifecycle management**.
 - Consuming and processing **Kafka events from core banking systems (Finacle)** to handle card creation, delivery, and status updates.
 - Designed **resilient, event-driven workflows with retry, reconciliation, and fallback mechanisms** to ensure data consistency across distributed banking systems.
 - Developing and maintaining **secure REST APIs** aligned with banking compliance, audit, and SLA requirements.
 - Collaborating with QA, product, and operations teams to improve **system reliability and production stability** in high-impact banking flows.
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Techno Consulting Services – Coimbatore, India

Full-Stack Engineer (Backend-Focused) | *Mar 2020 – Nov 2024*

Client: Credopay (Fintech)

Technologies: Node.js, NestJS, Kafka, Redis

- Led a **team of 5 engineers** in building a **production-grade payment gateway** integrating **Mastercard, Visa, RuPay, PhonePe, Cashfree, WeChat, and Samsung Pay**.
- Implemented **tokenization, AES/RSA encryption**, and secure payment flows for **UPI, cards, and net banking**.

- Designed **Kafka-based asynchronous processing** and reconciliation workflows, supporting **2,000+ concurrent transactions** without latency issues.
- Built scalable caching mechanisms using **Redis**, improving throughput and system responsiveness.
- Delivered a **rewards and cashback platform** with KYC integration, increasing user retention by **25%**.
- Established code review practices and automated testing, reducing **production defects by 40%** and improving performance by **20%**.

Client: Healthcare SaaS Platform

- Designed and developed **high-performance REST APIs** using **FastAPI**, improving response times by **30%**.
- Automated administrative workflows, reducing manual effort by **40%**.
- Optimized PostgreSQL queries and indexing strategies to ensure **data integrity and fast access** under high load.
- Implemented **Docker-based CI/CD pipelines**, reducing deployment time by **50%** and improving release reliability.
- Supported a global SaaS platform used by **100,000+ healthcare professionals**.

TECHNICAL SKILLS

Backend & Architecture

- *Node.js, NestJS, Python, FastAPI*
- *Event-Driven Architecture, Microservices, REST APIs*

Messaging & Databases

- *Kafka, PostgreSQL, MongoDB, Redis*
- *SQLAlchemy*

DevOps

- *Docker, Docker Swarm, CI/CD Pipelines*

Security & Banking

- *Tokenization, AES & RSA Encryption*
- *Secure Payment & Banking Integrations*

Frontend (Working Knowledge)

- *Vue.js, Angular*

EDUCATION

Master of Computer Applications (MCA)s

Bharathiar University, Coimbatore | 2022

Bachelor of Computer Applications (BCA)

NGM College, Pollachi | 2020
