MADHAN KUMAR R

Senior Backend Engineer · Node.js · Kafka · Event-Driven Microservices

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SUMMARY

Senior backend engineer with 6.5+ years building event-driven systems for banking, payments and healthcare. Specialised in Node.js, Kafka and card-payment integrations across card schemes, wallet tokenization, UPI and core banking. Proven at turning batch processes into real-time services and running payment systems at 2,000+ concurrent transactions. Looking to bring banking-grade reliability to a fast-moving fintech product team.

TECHNICAL SKILLS

Languages & Frameworks: JavaScript, TypeScript, Node.js, NestJS, Express, Python, FastAPI, Vue.js

Messaging & Architecture: Apache Kafka, Bull queues, event-driven microservices, REST APIs

Databases & Caching: MongoDB (Mongoose), PostgreSQL (SQLAlchemy), Redis

Security: AES/RSA encryption, tokenization, JWT, ACL gateways

DevOps, Observability & Testing: Jenkins, Docker, AWS (EC2, S3), Grafana, ELK Stack, Playwright, Git, Linux

Domains: Banking (Finacle core banking integration), card schemes and wallet tokenization, payments (UPI, cards, net banking), healthcare SaaS

EXPERIENCE

Senior Backend Engineer — D4Insight · Client: Emirates NBD — Dec 2024 – Present

- Rebuilt the card delivery flow as event-driven Kafka microservices, cutting status updates from **T+1 to real time**.
- Moved Finacle (core banking) credit card bill payment sync from a **T+1 batch to instant** updates.
- Made these flows fault-tolerant with **3+ automatic retries** per event and a cron-based retry job.
- Launched self-service wallet-token management across **three card schemes**: Mastercard, Visa and Jaywan (UAE domestic scheme).
- Building the Mastercard rewards claim integration.
- Designed MongoDB (Mongoose) data models and shipped **10+ features** to production via Jenkins CI/CD.

Techno Consulting Services, Coimbatore — May 2020 – Nov 2024

Full Stack Engineer · *Client: CredoPay (payment gateway)* — *Mar 2022 – Nov 2024*

- Led a **team of 6 engineers**; code reviews and automated testing cut production bugs by **40%**.
- Integrated Mastercard, Visa, RuPay (NPCI), PhonePe and Cashfree into a multi-network gateway on NestJS.
- Built UPI Collect, UPI Intent, card and net-banking flows secured with AES/RSA encryption, tokenization and a custom ACL gateway.
- Designed Kafka streaming with Redis and Bull queues, sustaining **2,000+ concurrent transactions**.
- Shipped a rewards and cashback feature with KYC that lifted user retention by **25%**.

Software Engineer · *Client: Healthcare SaaS platform* — *May 2020 – Feb 2022*

- Built FastAPI and PostgreSQL services for a platform serving **100,000+ professionals**; 30% faster APIs.
- Developed a candidate-to-job matching algorithm that cut screening time by **35%**.
- Designed a Dockerized CI/CD pipeline that **halved deployment time**.
- Optimised PostgreSQL queries for high-traffic use and built the Vue.js front end.

EDUCATION

Master of Computer Applications (MCA) · Bharathiar University, Coimbatore — 2022

Bachelor of Computer Applications (BCA) · NGM College, Pollachi — 2020