

G.M.H MADUSANKA

SOFTWARE ENGINEER

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SUMMARY

Results-driven Software Engineer with 4+ years of experience designing, leading, and scaling cloud-native, high-availability systems across HR, payroll, and enterprise domains. Demonstrates strong ownership of end-to-end system design, delivering robust full-stack solutions using NestJS, Node.js, React, and modern microservices architectures. Deeply experienced in event-driven platforms, distributed messaging, and caching strategies, with a strong focus on performance optimization, system reliability, and operational excellence. Known for driving automation initiatives that reduce operational overhead, building fault-tolerant production systems serving 30,000+ users, and contributing architectural decisions that improve scalability, maintainability, and developer efficiency. A proactive technical leader with a strong foundation in software architecture, system design, and cross-team collaboration.

PROFESSIONAL EXPERIENCE

Software Engineer - Rooster Technology (Pte) Ltd

Mar 2024 - Present

- Migrated legacy time-tracking system to Kafka-based event-driven architecture, scaling to 10K+ concurrent users without downtime.
 - Eliminated system crashes and request timeouts during peak clock-in traffic (4,000+ concurrent users) by decoupling write operations and introducing asynchronous event processing.
 - Designed denormalized reporting models and ETL pipelines, eliminating expensive runtime aggregations and reducing service resource usage.
 - Designed new primary database schemas and implemented an ETL pipeline to generate denormalized, pre-computed views for reporting and aggregated analytics.
 - Reduced CPU and memory consumption by removing expensive service-layer aggregations and shifting computation to pre-processed reporting models, enabling the primary service to run with significantly lower resource usage.
 - Laid the architectural foundation for the new time-tracking microservice, defining backend standards, data contracts, and event schemas.
 - Mentored and guided team members across backend and frontend with under guide of the lead engineer, supporting adoption of the new architecture and enforcing best practices.
- Designed and implemented RBAC (Role-Based Access Control) and permission enforcement for enterprise workflows, aligning authorization logic with domain boundaries and ensuring secure, maintainable access patterns across services and UIs.
- Built shared backend library using NestJS/TypeScript with AWS SSM to standardize configuration and reduce duplication across 30+ microservices, improving maintainability and operational consistency.
- Integrated AI-assisted resume evaluation into internal recruitment workflows by implementing custom reasoning logic and background processing pipelines, reducing candidate screening time by 60%.
- Actively contributed to architecture reviews, technical design discussions, and mentoring, guiding junior engineers and collaborating with lead engineer to improve scalability, maintainability, and long-term platform evolution.

Associate Software Engineer - Rooster Technology (Pte) Ltd

Feb 2023 - Mar 2024

- Engineered and delivered a scalable leave management platform serving 30,000+ employees, implementing complex accrual rules, proration logic, real-time balance computation, and multi-level approval workflows.
- Designed payroll-integrated automation to handle compliance-sensitive and no-pay scenarios, significantly reducing HR workload and approval turnaround time.
- Contributed to the modernization of payroll systems, enabling flexible earnings and deductions (ex: PAYE tax calculation) while improving configurability and processing efficiency.
- Diagnosed and resolved analytics performance bottlenecks by optimizing query execution paths, indexing strategies, and data access patterns, resulting in substantial improvements in dashboard responsiveness.
- Worked closely with product, QA, and platform teams to deliver production-grade enterprise features with a strong focus on correctness, performance, and maintainability.

Junior Web Developer - OlankaTravels (Pvt) Ltd

Sep 2021 - Dec 2022

- Developed and customized business-critical WordPress themes and plugins, translating design and content requirements into maintainable, CMS-driven solutions.
- Built reusable components and gained early exposure to full-stack development, production deployments, and stakeholder collaboration.

SKILLS

Programming Languages & Frameworks

- TypeScript, JavaScript, Java
- Node.js, NestJS, Express.js
- React, Next.js
- Spring Framework
- C, C++
- Python (Django, Flask)

System Architecture & Design

- Microservices Architecture
- Event-Driven Architecture (EDA)
- Domain-Driven Design (DDD)
- Test-Driven Development (TDD)

Cloud Platforms & Infrastructure

- AWS (EKS, ECS, ECR, EC2, Lambda, MSK, S3, ElasticBeanstalk)
- Infrastructure as Code (Terraform, CloudFormation)

Testing, Quality & Reliability

- Jest, Mocha, Supertest
- Test-Driven Development (TDD)

Data Stores, Caching & Search

- Relational Databases: PostgreSQL, MariaDB
- NoSQL Databases: MongoDB, DynamoDB
- Caching & In-Memory Data Stores: Redis
- Search & Analytics: Elasticsearch
- ORM / Data Access: TypeORM, Prisma

Messaging, Streaming & Observability

- Apache Kafka
- AWS SQS/SNS
- Centralized Logging & Monitoring (ELK Stack, Prometheus, Grafana)

DevOps, CI/CD & Platform Engineering

- Docker
- Kubernetes
- Github Actions, Bitbucket Pipelines
- AWS CodeBuild, CodePipeline

AI & Intelligent Systems

- LLM API Integration (OpenAI)
- AI-assisted Workflow Automation

EDUCATION

BSc (Hons) Computer Science - University of Westminster, London, UK

2023 – 2026

Part-time

G.C.E Advanced Level Examination - Physical Science

2020

Combined Mathematics - A, Physics + Chemistry - C