

NALINKA HESHAN

Senior Software Engineer

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PROFESSIONAL SUMMARY

- 6+ years building and running distributed systems where correctness matters: payments, core banking, insurance claims and healthcare billing.
- Designed and owned a payments and billing platform end to end in Java, Spring Boot and Kafka on AWS. Live two years, processing USD 100M+ annually, with invoice failure rates cut to 0.1%.
- Currently designing the integration layer for a claims platform replacement at the Transport Accident Commission, spanning 50+ interconnected systems.

TECHNICAL SKILLS

Languages & Frameworks: Java, TypeScript, Node.js, JavaScript, Python, Spring Boot, Spring MVC, Spring Data JPA, Hibernate, Angular, React Native

Kafka in production: Duplicate processing from offset commit failures, consumer thread exhaustion under slow processing, in-flight work lost to forced shutdown before graceful drain completed, consumer group tuning

Distributed patterns: Saga with compensating transactions, transactional outbox, idempotency for safe retry, circuit breaker, event-driven choreography across microservices

SQL performance: Execution plan analysis, composite and covering index design, removing full-table scans caused by unindexed joins, column pruning

AWS: Lambda, API Gateway, DynamoDB, S3, SQS, SNS, RDS, Aurora PostgreSQL, EC2, IAM, KMS, CloudWatch, CloudFormation, AWS CDK, EventBridge Scheduler, Secrets Manager, Elastic Beanstalk, IoT

Data & caching: PostgreSQL, Oracle, MySQL, MongoDB, DynamoDB, Redis, Elasticsearch (querying and analysis), Apache Druid, Apache Flink

Platform & DevOps: Docker, Kubernetes, Red Hat OpenShift, Terraform, Jenkins, GitHub Actions, Git, Maven, Prometheus, Grafana

Integration & security: REST and SOAP web services, HL7 with FHIR-aligned design, OAuth2/JWT, TLS/mTLS, OIDC workload identity federation, IAM policy design, least-privilege scoping

Testing & practices: JUnit, Mockito, Cypress, Selenium, contract testing, Agile/Scrum and Kanban, system design, code review, AI-assisted development (Claude, Copilot, Cursor)

CERTIFICATIONS

AWS Certified Developer – Associate | July 2025

AWS Certified AI Practitioner | August 2026

WORK EXPERIENCE

Software Engineer | Transport Accident Commission (TAC)

Dec 2025 – Present

Melbourne & Geelong, VIC

- Reverse-engineering 50+ interconnected systems to design the integration layer for TAC's next claims platform.
- Building integrations across platform boundaries using REST and SOAP web services and MQ messaging, and tracing failures between systems through batch jobs and message queues to root cause.
- Migrated 13,000+ recovery-claims records from a legacy platform into the core claims system with full reconciliation and no downstream discrepancies, allowing the legacy platform to be retired.
- Turning undocumented legacy behaviour into design documentation architects and business analysts can act on.

Java, Oracle SQL, REST/SOAP Web Services, MQ Messaging, Jenkins, Git, JIRA, Confluence

Software Engineer | Cloud Solutions International

Jul 2023 – Dec 2025

Colombo, Sri Lanka (remote from Australia from Jun 2025)

- Designed and owned the invoice, billing and payments platform for Dr. Sulaiman Al Habib Medical Group, the largest private healthcare network in the Middle East. Live two years, processing USD 100M+ in annual transactions.
- Ran two complete invoice backends in parallel behind a facade layer, fully isolated from each other and serving a single unchanged UI, so the replacement flow could be built and validated without disrupting users.
- Held financial consistency across microservices using transactional outbox, saga with compensating rollback and idempotent retry. Invoice failure rates fell to 0.1%.
- Built a high-performance Node.js service checking prescriptions against patient history across drug codes and SNOMED clinical terminology, without slowing the prescribing workflow.
- Integrated patient and clinical data between two hospital systems over HL7, with designs aligned to FHIR.

- Built AWS infrastructure in CDK and CloudFormation; ran services on Docker and Kubernetes at 99.9% uptime.
- Five months onsite in Riyadh with doctors and pharmacists. Reviewed code and mentored less experienced engineers.

Java, Spring Boot, TypeScript, Angular, Node.js, Kafka, Redis, PostgreSQL, Oracle, AWS (CDK, CloudFormation, Lambda, EC2, S3, RDS, SNS, SQS), Docker, Kubernetes, Jenkins, JUnit, Mockito, Cypress

Senior Software Engineer | Qbitum Solution (Pvt) Ltd

Oct 2022 – Jul 2023

Colombo, Sri Lanka

- Migrated Seylan Bank's core digital banking platform onto Red Hat OpenShift, changing application and platform on a live financial system with no disruption at cutover.
- Engineered a distributed AWS data-processing pipeline in Python for real-time ingestion and anomaly detection across IoT telemetry, reducing processing time by 25%.
- Stood up Prometheus and Grafana monitoring and load testing ahead of the cutover and wrote a Selenium regression suite covering core banking customer journeys.

Java, Spring Boot, TypeScript, Angular, Python, AWS (Lambda, EC2, S3, DynamoDB, Kinesis, IoT, CloudFormation), Red Hat OpenShift, Kubernetes, Docker, Kafka, Prometheus, Grafana, Selenium

Software Engineer | Zilingo

Mar 2020 – Sep 2022

Colombo, Sri Lanka

- Built core backend services on Play Framework (Java) for a high-volume B2B eCommerce marketplace through rapid transaction growth.
- Built analytics and reporting on Apache Druid and Apache Flink over large event datasets, with Elasticsearch analysis surfaced in Grafana. Client reporting accuracy up 15%.
- Contributed to a major architectural change that improved platform scalability under load.

Java (Play Framework), Druid, Flink, Kafka, Elasticsearch, MongoDB, Jenkins, Grafana

PROJECTS

Casual Services Invoice Automation

2026

- Monthly invoicing I run for my own work: a scheduled Lambda works out billable days from business-day calendars, public holidays and leave, fills my PDF template and leaves a Gmail draft for review. It never sends.
- Invoice numbers reserved in one conditional DynamoDB transaction; a marker written before the Gmail call lets a retry find the existing draft instead of creating a second. 53 offline tests cover numbering and retries.

Python, AWS (Lambda, EventBridge Scheduler, DynamoDB, S3, SQS), CloudFormation, Gmail API | github.com/nalinka1/casual-invoice-automation

Agent Failure Lab

2026

- Hand-written tool-calling agent for three-way invoice matching, no framework, run 50 times to count how it fails.
- 4 of 50 runs approved an invoice whose vendor lookup had errored. The model sent the same idempotency key every time, but the payment tool never checked it. Preconditions belong in the tool, not the prompt.

Python, OpenAI API (tool calling) | github.com/nalinka1/agent-lab

Multi-Cloud Secure Document Platform, AWS and Azure

2026

- Cross-cloud OIDC federation: an Azure managed identity reads a KMS-encrypted S3 bucket with no AWS key on the Azure side. Tests prove wrong identities, expired tokens, out-of-scope reads and missing KMS grants all fail.
- Both clouds from one Terraform configuration with remote state and blob-lease locking. External API tier validates Entra ID tokens; the VNet-injected internal tier reaches Key Vault through a managed identity.

Terraform, AWS (S3, KMS, STS), Azure (Entra ID, Key Vault, APIM), OIDC | github.com/nalinka1/multi-cloud-secure-document-platform

AWS Event-Driven Order Platform

2025 – 2026

- Serverless event-driven flow built with AWS CDK, then migrated from DynamoDB to Aurora PostgreSQL with an idempotent upsert script and contract tests either side of the cutover.

AWS CDK, API Gateway, Lambda, DynamoDB, Aurora PostgreSQL, SNS, SQS, S3 | github.com/nalinka1/aws-order-flow

EDUCATION

B.Sc. Engineering (Hons.), Electronic and Telecommunication Engineering

2016 – 2020

University of Moratuwa, Sri Lanka

REFERENCES

Available on request.