

Kalana Sandakelum

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PROFESSIONAL SUMMARY

IT undergraduate at the University of Moratuwa and a full-stack software engineer who builds distributed, production-grade systems end to end - across **Java, Spring Boot** back-ends and **React, Next.js** front-ends and proves they work with load tests and CI pipelines, not just claims. Comfortable across the modern enterprise stack: Spring Boot, PostgreSQL, **Redis, RabbitMQ, OAuth2** / OIDC, Docker and AWS, with a strong foundation in data structures & algorithms (DSA).

INDUSTRIAL EXPERIENCE

Software Engineer (Part-Time, Remote) - Ryзера Technologies (Pvt) Ltd
Sri Lanka (Remote) · Feb 2025 – June 2026

- Designed a dedicated Identity & Authentication Server with Spring Security 6 and OAuth2.
- Developed scalable RESTful APIs and microservices with Spring Boot 3 and Java 21.
- Containerized the application stack with Docker for environment parity across development, testing, and production; worked in 2-week Agile sprints with peer code reviews.
- Developed **AI voice agents** to automate first-line customer support and reduce repetitive tickets.
- Built responsive Next.js dashboards for enterprise-level data visualization and management.

EDUCATION

University of Moratuwa B.Sc. (Hons) in Information Technology & Management (CGPA: 3.71 / 4.0)	Katubedda, Sri Lanka 2024 - 2028
Walasmulla National College GCE Advanced Level: Z-score 1.498 GCE Ordinary Level: 9 A passes (9 A's)	Walasmulla, Sri Lanka 2012 - 2022

PROJECTS

ApexTick: Real-Time Event Ticketing Platform  **git**

Technologies: Java 21, Spring Boot, PostgreSQL, Redis, RabbitMQ, Keycloak, Next.js, Docker, AWS (EC2, S3), WSO2 API Manager, Terraform

- A distributed, real-time ticket reservation system built to survive a high-contention flash sale - where **thousands of users race for the same seat and exactly one wins**, with no double-booking and no slowdown. Delivered as a full production platform (event browsing, live seat-map booking, secure online payments, user accounts, and admin panels) and load-tested to verify correctness under concurrency.
- Achieved lock-free concurrency via a single atomic conditional UPDATE at the PostgreSQL row level (schema versioned with Liquibase migrations) - no application locks - staying correct across horizontally-scaled, stateless instances.
- Implemented self-expiring seat holds with **Redis** TTL; an event-driven notification service consumes **RabbitMQ** events to email confirmations and store generated ticket PDFs in **AWS S3**; secured the API with **Keycloak OAuth2/OIDC** (stateless JWT) and documented it with OpenAPI/Swagger
- Built the full **Next.js/React** UI and admin panels; containerized with Docker, provisioned with **Terraform** (IaC), and deployed behind a **WSO2 API Manager** gateway on AWS.

Durdans Hospital LIMS: Laboratory Information Management System

Technologies: Java 21, Spring Boot 3.5, PostgreSQL, Kafka, Keycloak, AWS S3, Next.js, TypeScript, Docker | (University 2nd-year group software project, mentored by IFS Sri Lanka)

- Team-built an enterprise LIMS for Durdans Hospital covering the full laboratory lifecycle on a **Gradle multi-module** Java 21 / Spring Boot backend with PostgreSQL, **Kafka**, and a Next.js front-end.
- Integrated **Keycloak** as the OAuth2 / OIDC authorization server, securing all backend APIs and role-based access and built the patient management module with SMS & email verification (rate-limited) and secured file uploads to **AWS S3** and notification service.

AI Voice Agent Platform (Multi-Industry) - Conversational AI

Technologies: Python, Google Gemini, Speech-to-Text/TTS, Asterisk PBX, Dialog SIP Trunk

- Built a production voice AI agent platform serving multiple verticals (healthcare, reservations, sales) that answers real calls over a Dialog SIP trunk / Asterisk PBX, understands natural speech via Gemini, and completes tasks like appointment booking end-to-end via tool-calling, with live human transfer and DTMF-based NPS surveys.

Vehicle Number Plate Detection & Smart Car-Parking System

Technologies: Python, Machine Learning, YOLO (Roboflow), OCR, TensorFlow, Docker, OpenAI

- Built a highly accurate vehicle number-plate recognition system (Roboflow-trained YOLO + OCR) and a smart car-parking system with duration tracking, automated billing, and an admin dashboard for live occupancy and unauthorized-access alerts.

TECHNICAL SKILLS

- **Languages:** Java, TypeScript, JavaScript, Python, SQL, HTML/CSS
- **Backend:** Spring Boot, REST APIs, OAuth2, Swagger/OpenAPI, Maven, Node.js, Express.js
- **Frontend:** React, Next.js, Tailwind CSS, Bootstrap
- **Databases & Caching:** PostgreSQL, MySQL, MongoDB, Redis
- **Messaging & Integration:** RabbitMQ, WSO2 API Manager, Keycloak, Kafka
- **DevOps & Cloud:** Git, Docker, GitHub Actions (CI/CD), Terraform, AWS, Vercel
- **Testing:** JUnit, Testcontainers, k6 (load testing), Postman
- **Core CS:** Data Structures & Algorithms (DSA), OOP, Design Patterns

CERTIFICATES

- Java and Object-Oriented Programming - University of Pennsylvania [↗](#)
- Programming with JavaScript - Meta [↗](#)
- Introduction to Front-End Development - Meta [↗](#)
- Docker Foundations Professional - Docker [↗](#)

ACHIEVEMENTS

- Finals: IDEALIZE 2025 Semi-Finals: IDEALIZE 2024 Participant: WSO2 Ballerina

Extracurriculars

- Organizing Committee: **International Conference on Information Technology Research 2026**
- Member: FIT Moments • Member: IES Lab University of Moratuwa

References

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