

Kalana Sandakelum

Tel: +94 70 214 5081 | kalanasandakelum210@gmail.com | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

PROFESSIONAL SUMMARY

IT undergraduate at the University of Moratuwa who builds distributed, production-grade systems end to end – from Java/Spring Boot back-ends to React/Next.js front-ends – and load-tests them before shipping. Most at home in back-end and system design work: concurrency control, data consistency, secure API boundaries and event-driven services, backed by a strong foundation in data structures and algorithms.

PROFESSIONAL EXPERIENCE

Software Engineering Intern (Part-Time) – Ryzera Technologies (Pvt) Ltd

Sri Lanka (Remote) · Feb 2025 – Feb 2026

- Designed and built a central Identity & Authentication Server with Spring Security 6 and OAuth2.
- Developed and shipped 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; delivered features in 2-week Agile sprints with peer code reviews.
- Built AI voice agents that automate first-line customer support and deflect repetitive tickets.
- Delivered responsive Next.js dashboards for enterprise 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 (2022): Z-score 1.498
GCE Ordinary Level: 9 A passes

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

- Engineered 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 k6 load-tested to verify correctness under concurrency.
- Enforced single-winner seat claims via one atomic conditional UPDATE at the PostgreSQL row level (schema versioned with Liquibase migrations) – no application-level locks – staying correct across horizontally scaled, stateless instances.
- Implemented self-expiring seat holds with **Redis** TTL; built an event-driven notification service that consumes **RabbitMQ** events to email confirmations and store 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 – 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)

- Co-developed 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 with role-based access; built the patient management module with rate-limited SMS & email verification, secure file uploads to AWS S3 and a notification service.

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

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

- Developed 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, YOLO (Roboflow), OCR, TensorFlow, Docker, OpenAI

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

CERTIFICATIONS

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

ACHIEVEMENTS

- Finalist: IDEALIZE 2025 Semi-Finalist: 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

Mr. B. H. Sudantha

Former Dean & Senior Lecturer

Faculty of IT, University of Moratuwa

sudanthabh@uom.lk

+94 76 927 1676