Kalindu Wijerathna

Software Engineer

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Passionate and creative tech enthusiast with a strong work ethic, dedicated to building intelligent, scalable systems across the full stack and beyond.

Experience

Pagero (Part of Thomson Reuters)   **Aug 2025 – Present**
Software Engineer

- Implemented a **custom authentication token verification** mechanism (full-stack) supporting complex, multi-stage authentication flows in **Pagero API Integrator**, addressing client requirements (including Polish regulatory scenarios).
- Took part in **initializing a new microservice** for processing invoice batches after fetching, including decryption, extraction, and routing through the document flow. Contributed to designing **message flow and database design**, and implemented core functionality by initializing service and specification projects, enabling **streaming-based batch processing workflow** and seamless inter-service communication using **RabbitMQ and ZIO**.
- Implemented **response-splitting audit logging** in **Pagero API Integrator**, improving observability in critical workflows.
- Developed **data sanitization tooling** for shared databases in **Pagero API Integrator**, including automated sanitization scripts and **local validation setups**, ensuring safe handling of sensitive environments.
- Strengthened Pagero API Integrator through **Snyk-driven security hardening** and **targeted refactoring** to improve interoperability between microservices, and enhanced **performance and stress-testing setup** by integrating JVM profiling and monitoring tools such as **VisualVM, Java Mission Control (JMC), and Java Flight Recorder (JFR)**.
- Contributed to **backend and frontend applications** across a modern polyglot stack (**Scala, ZIO, Cats, React, TypeScript, PostgreSQL**) with comprehensive **unit and integration tests** and enabling observability via **Grafana**.

Creative Software   **Jul 2024 – Jan 2025**
Software Engineer - Intern (6 months)

Full Stack Development Tasks

- Spearheaded the development of 10+ major features for **TrackIT V4**, an enterprise multi-tenant HR management system, using **Java**, **Spring Boot**, **React**, **TypeScript** and **PostgreSQL**.
- Engineered core UI/UX components (Login Page, Navigation Bar, Tool Bar) during frontend migration from Angular to React, ensuring seamless integration with backend authentication via **Microsoft AD** and **Local LDAP** with **JWT**.
- Developed a **Global Task Search** feature using a three-layered fuzzy search with **Levenshtein** Distance and integrated it with **Redux** for state management, enhancing discoverability across modules.
- Built a **Global User Preferences Mechanism** using **custom React hooks** and **Context API** to manage system-wide and user-specific settings (locale, language, date-time, currency), with multi-tenant support and flexible UI configuration.
- Designed and implemented a **multi-tenant onboarding frontend service** for purchasing & registering client organizations, with plan selection and initializing tenant-specific environments—enabling customer provisioning.
- Designed and developed a **Generic Form Designer**—a powerful and intuitive interface that enables admin users to create and configure a wide variety of dynamic forms through a user-friendly GUI, without requiring any technical knowledge. Supported flexible layouts, field types, and validation rules to enhance system adaptability.
- Resolved critical bugs in backend services and frontend logic, boosting system stability and reducing QA-reported issues.

DevOps Tasks

- Designed and implemented 6 end-to-end **CI/CD pipelines** for frontend (**React**), backend (**Spring Boot**), and Tenant Service modules using **Azure DevOps**, enabling fully automated testing, building, and deployment workflows.
- Configured and managed Linux-based deployment environments across development, testing, staging, and production stages on internal **VPS** infrastructure, including **Apache Tomcat** server setup and **Maven** dependency management.
- Integrated **Allure** for automated test documentation generation and **refactored unit and integration testing pipelines** to improve CI workflow efficiency, reporting clarity, and long-term maintainability.
- Integrated Enforcement of strict code quality standards through automated linting and formatting workflows with **ESLint**, **Prettier**, **Stylelint**, and **SonarQube**, integrated via pre-commit hooks and CI validations.

Education

BScEngHons Specializing in Computer Engineering   **Mar 2021 – Aug 2025**
University of Peradeniya   CGPA: 3.70 / 4.00 (First Class Honours)
GCE Advanced Level Physical Science Stream (A — A — A)   **2019**
Dharmaraja College, Kandy   Z-Score: 2.164

Certifications

Cisco Certified Network Associate (CCNA 200-125) 🔗   2020
Professional certification covering network fundamentals, LAN switching, routing technologies, IPv4/IPv6 addressing, WAN technologies, infrastructure services, network security, and troubleshooting enterprise network environments.

AWS Cloud Solutions Architect Professional Specialization 🔗   2024
4-course specialization offered by AWS through Coursera. Covered core AWS services (compute, storage, database, networking, IAM), with architectural patterns and data lakes, explored through hands-on scenarios and best practices.

Java Spring Framework Specialization 🔗   2025
4-course specialization offered by LearnQuest through Coursera. Covered Spring core and dependency injection, Spring Boot–based web and RESTful applications, data persistence with Spring Data, and microservices fundamentals.

Meta Front-End Developer Professional Certificate Specialization (React) 🔗   2025
9-course specialization offered by Meta through Coursera. Emphasized advanced React techniques including component patterns, remote data fetching, API integration, UI/UX design principles and responsive architecture.

Architecting with Google Kubernetes Engine Specialization 🔗   2025
3-course specialization offered by Google through Coursera. Covered creating and managing GKE clusters, Kubernetes workload scheduling and networking, persistent storage abstractions, cloud IAM and RBAC security policies, logging and monitoring, CI/CD integration, and production-grade deployment best practices.

Certified Kubernetes Application Developer (CKAD) Specialization 🔗   2025
3-course specialization offered by LearnKartS through Coursera. Covered pod configuration, services and networking, persistent storage, ConfigMaps, Secrets, RBAC, autoscaling, observability, and hands-on labs.

Functional Programming in Scala Specialization 🔗   2025
5-course specialization offered by EPFL (Scala birthplace University) through Coursera. Covered core functional programming concepts with Scala including Monadic effects, immutable data design, higher-order functions, pattern matching, functional library/API design, parallel and distributed computation with a hands-on capstone project.

Technical Skills

Languages	Java, C, Python, Scala, C++, PHP, JavaScript, R	**Frameworks**	Spring Boot, React, Node.js, Express, ZIO(Scala)
DevOps	Jenkins, Azure DevOps, Ansible, Terraform	**Containerization**	Docker, Kubernetes, Singularity
Cloud	AWS, Google Cloud (GCP), Azure	**Networking**	Cisco Routing & Switching, ASA Firewalls
Databases	PostgreSQL, MySQL, MongoDB	**Monitoring**	Prometheus, Grafana, Zabbix
Messaging	RabbitMQ, Apache Kafka	**Scripting**	Bash, Batch

Selected Projects

NLP-Driven Intent-Based Networking Architecture for SDNs (Final Year Research Project) 🔗   Dec 2024 – Aug 2025
– A **3-member research project** addressing gaps in **Intent-Based Networking (IBN)** frameworks by proposing a **novel NLP-driven RAG architecture (Retrieval-Augmented Generation)** for intent understanding and translation.
– Contributed to design and implement a layered architecture integrating **NLP** with **Software-Defined Networking (SDN)** to translate high-level intents into actionable network configurations.
– Automated diverse topology provisioning using **Mininet**, **Containernet** and **Bash** to assess scalability, resilience, and security; integrate **ONOS** SDN controllers with **Prometheus** and **Grafana** for real-time monitoring and analytics.
– Led server setup, infrastructure management, and API integration, ensuring reliable, low-latency, real-time intent processing post the intent generation.

Digital Signage System – IT Center, University of Peradeniya (Group) 🔗   Aug 2023 – Jan 2024
– A **3-member group project** developed to address key content management and scheduling requirements of the **IT Center, University of Peradeniya**, replacing manual workflows with an automated digital signage platform.
– **Officially deployed** on-site in Jan-2024 and actively utilized by the university staff members till present.
– Developed a scalable CMS solution replacing manual scheduling with centralized management and dynamic scheduling.
– Built secure **PHP backend APIs** with robust authentication and session management for reliable data access.
– Created a responsive, user-friendly course content management interface using **React** and **TypeScript**.
– Contributed to architecture design, admin dashboards, and scheduling algorithms; Integrated **GitHub Actions CI/CD**.

Pera Link – Social Media Platform for University of Peradeniya Community (Group) 🔗   May 2023 - Aug 2023
– A **3-member project** designed to build a POC of a scalable social media platform for the **University of Peradeniya community**, focusing on real-time content sharing and secure user interaction.
– Built RESTful backend APIs with **Express.js** and **Node.js** for authentication, user management, and real-time data.
– Designed and optimized **MySQL** schema for scalable, efficient social media queries.
– Contributed to system architecture design, deployment, and configuration to enhance stability and maintainability.
– This idea (our original undergraduate project) was officially adopted by HackersClub UoP as their first long-term, university-wide initiative; collaborating across faculties with me serving as **DevOps Lead.** (Dec 2024 – Aug 2025)

Digital Twin of a Smart City Road Traffic Flow Intersection (Group) 🔗   Apr 2024 - Nov 2024

- A **14-member group project** developing a **Digital Twin system** to simulate and analyze real-time traffic flow at road intersections using **Apache Kafka, Ecclipse Honno, Ecclipse Ditto, Unity-3D and Docker**.
- Led the overall Design and the **core system architecture**, focusing on handling real-time data pipelines.
- Led the **Kafka-based communication layer** for sensor-to-simulator messaging across distributed components.
- Containerized and deployed all services on **GCP Compute Engine** with **docker-compose** and **bash script** automation.

Acadametrix – Student Result Management Platform (Group) 🔗   Apr 2024 – Dec 2024

- A **5-member group project** to build a full-stack result portal with secure role-based access control using **Spring Boot**, **Thymeleaf**, **MySQL**, and **Tailwind CSS**.
- Developed RESTful APIs for results, and user management using **Spring Web**, **Spring Data JPA**, and validation.
- Configured **Jenkins CI/CD** pipelines; automated deployment on **AWS EC2**, **VPC** using **Terraform** and **Ansible**.

SCARA: Pera Swarm Modular Robots (Group) 🔗   Oct 2023 - Jan 2024

- A **5-member group project** under the long-running **Pera Swarm initiative**, focused on designing and developing swarm-capable, scalable modular robotic units for collaborative and autonomous operations.
- Contributed by designing a modular robotic arm with **Raspberry Pi Zero-W** and **ATtiny85** for embedded control.
- Implemented full-stack support using **MongoDB**, **Express.js**, **React.js**, and **Node.js** to manage robot configurations.
- Led overall database design & implementation and comprehensive documentation for user and engineering manuals.

Elective Course & Field Recommendation System (Group) 🔗   Mar 2024 - Aug 2024

- Contributed to hyperparameter tuning and optimization of the **SVM model** for improved predictive accuracy.
- Deployed the **ZenML MLOps pipeline** on **GCP**, integrating model serving, artifact storage, and performance monitoring.
- Contributed to data preprocessing, model training, and evaluation across **multiple models (SVM, XGB, MLP)**.

Volunteering/Leadership

Casual Instructor at Deptaretment of Computer Engineering   Apr 2025- Aug 2025

Assisted in conducting Software Engineering (CO328) and Computer and Network Security (CO325) laboratories, supporting third-year undergraduate students with hands-on exercises, core concepts, and practical problem-solving.

Project Nenathambara – Finance Lead   2023 – 2024

Managed finances for a nationwide IT workshop series promoting IT education in Sri Lankan schools.

Singularity Containerization Project – DL Workflow   Apr 2025- Aug 2025

Deployed **Singularity containers** on HPC servers to enable isolated research workflows, providing controlled elevated access and virtual environment provisioning for undergraduate and postgraduate deep learning projects.

Departmental HPC Server Group Member   2023 – 2025

Maintained, optimized, and secured HPC servers, including GPU and non-GPU nodes, performing system updates, performance tuning, and contributing to cluster-wide metrics monitoring improvements to ensure reliability, efficiency, and high availability. **Initiated the migration from legacy NAS(Network Attached Storage) and LDAP servers to a new Synology setup**, including configuration and integration with existing HPC infrastructure, improving storage performance, security, and centralized access management.

Competitions / Extra-curricular

ACES Hackathon – 3rd Place   2023

48-hour idea-pitching competition with 40+ teams; introduced an open-source charitable platform called *CharityVerse*.

ACES Pre-Coders v10 – 7th place (60+ Teams)   2023

6-hour university-wide team coding competition hosted by ACES, University of Peradeniya.

MoraXtream 8.0 – 30th Place (200+ Teams)   2023

12-hour island-wide inter-university coding competition organized by University of Moratuwa.

All-Island School Music Competitions – 1st (Classical Singing | Group), 2nd (Folk Orchestra)   2017

Visharad in Vocal (2015) & Violin (2016)   Bhathkande Sangit Vidyapith, Lucknow

School Orchestra – Singer & Violinist   Dharmaraja College, Kandy

References

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