SADUMINA RATHNAYAKA

· Educator · Full-Stack Development · AI Integration · Cloud & DevOps

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PROFESSIONAL SUMMARY

Results-driven Software Engineering student pursuing a BSc (Hons) in Information Technology at SLIIT, with 8+ months of hands-on internship experience at Hayleys PLC. Proficient in Python, Node.js, React.js, Java, and React Native, with a strong record of delivering production-ready full-stack solutions. Actively seeking Software Engineering Intern and Junior Software Engineer opportunities to contribute to high-impact teams.

TECHNICAL SKILLS

- Languages: Python, JavaScript (ES6+), TypeScript, Java, SQL
- Frontend: React.js, Next.js, React Native, Tailwind CSS, Bootstrap, Material-UI
- Backend: Node.js, Express.js, NestJS, FastAPI, Spring Boot
- Databases: MongoDB, MySQL, PostgreSQL, Firebase, Prisma ORM
- Cloud & DevOps: AWS, Docker, GitHub Actions, CI/CD, Git
- AI & Integration: OpenAI API, Mistral AI, RESTful APIs, WSO2 API Manager, Google Colab
- Methodologies: Agile/Scrum, Code Review, System Design, API Design

PROFESSIONAL EXPERIENCE

Information Technology Intern | Hayleys PLC / Haycarb PLC Colombo, Sri Lanka *Sep 2025 – May 2026*

- Engineered FastAPI and Node.js backend services with RESTful API endpoints, improving API reliability by 25% and contributing to 40% of backend feature development for enterprise-grade applications.
- Built responsive React.js and Next.js analytics dashboards comprising 35% of all UI components, enabling 20% faster data visibility for cross-functional teams.
- Automated CI/CD pipelines using GitHub Actions and Docker containerization, reducing manual deployment steps by 30% and increasing release frequency.
- Designed and implemented end-to-end internal systems integrating frontend and backend for seamless data management, reporting, and real-time analytics used by enterprise stakeholders.
- Collaborated with senior engineers on code reviews, API design, database optimization, and system architecture best practices in an Agile environment.

PROJECTS

Edu Sense | Python, FastAPI, Next.js, MongoDB, Firebase, OpenAI API *2025 – 2026*

- Built a full-stack AI-powered study planning platform generating personalized schedules and acting as a productivity coach, using FastAPI (backend) and Next.js (frontend).
- Integrated OpenAI API for context-aware study recommendations and adaptive learning feedback; used Firebase for real-time sync and MongoDB for persistent storage.

Clever Campus – Smart Campus Management System | Spring Boot, React.js, MongoDB *2026*

- Developed a smart campus management system using Spring Boot REST APIs and React.js, supporting student and staff workflows across attendance, scheduling, and resource management.
- Designed scalable MongoDB schemas and implemented secure RBAC with JWT authentication for multi-role user management.

CarbonXinsight – Enterprise Analytics Dashboard | Python, FastAPI, React.js, MongoDB *Jan 2026*

- Developed an intelligent analytics platform for Haycarb's sales and marketing teams featuring real-time coconut shell pricing insights, distribution tracking, and predictive forecasting.
- Built Python-based forecasting models and interactive React.js dashboards with live charts for multi-region sales trend analysis.

DreamWorks – Photography Studio Management System | React.js, Node.js, Express.js, MongoDB *2025*

- Led full development of the User Management module including JWT-based authentication, RBAC, and secure CRUD operations.
- Designed a normalized database schema and optimized service layers with MongoDB aggregation pipelines, reducing redundant queries by 35%.

Vehicle Detection & Monitoring System | FastAPI, React.js, MongoDB, Docker, GitHub Actions *2025*

- Architected a full-stack vehicle monitoring system with full ownership of backend, frontend, and database layers; achieved 40% faster request handling through optimized MongoDB models.
- Containerized the application with Docker and automated deployment via GitHub Actions, improving deployment reliability by 30%.

RESEARCH & PUBLICATIONS (READING)

Integrated Flood and Landslide Risk Assessment and Response System for Sri Lanka | SLIIT IT4010 Research Project (Center of Excellence for AI)

- Research project developing an integrated disaster management and early warning system combining landslide prediction, flood impact assessment, Human Impact and decision support, and emergency response coordination.
- Contributed the landslide prediction and forecasting component, covering ML-driven probability modelling, GIS-based mapping, and explainable terrain failure analysis for a Nuwara Eliya District pilot area.

Repository: https://github.com/amasha-sinhalagoda/J26-IT-334/tree/Bagya---Docs

EDUCATION

BSc (Hons) in Information Technology | Sri Lanka Institute of Information Technology (SLIIT), Colombo*May 2023 – May 2027*

- Relevant Coursework: Data Structures & Algorithms, OOP, Database Management Systems, Software Engineering, Web Technologies, Computer Networks, Cloud Computing.

LANGUAGES & INTERESTS

- Languages: English - Professional, Sinhala - Native
- Interests: Open-source Contribution, AI/ML Applications, Cloud Architecture, Mobile Development