Harsha Jayaweera

Artificial Intelligence Undergraduate | Software Engineering & Full-Stack Development

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LinkedIn | GitHub | Portfolio

PROFESSIONAL SUMMARY

BSc (Hons) IT undergraduate at SLIIT specialising in Artificial Intelligence, with four consecutive Dean's List awards. Experienced in developing full-stack web and mobile applications, REST APIs, and containerized services, including a deployed hostel management platform. Seeking a Software Engineering internship to contribute to reliable applications and further develop software development skills.

EDUCATION

Sri Lanka Institute of Information Technology (SLIIT) *2024 – 2028 (Expected)*

BSc (Hons) in IT - Specialised in Artificial Intelligence

- Achievements: Four consecutive Dean's List awards | Cumulative GPA: 3.9 / 4.00
- Relevant coursework: Object-Oriented Programming, Data Structures & Algorithms, AI/ML, Database Design & Development, Software Engineering, Operating Systems & System Administration

Dharmaraja College - G.C.E. Advanced Level (Physical Science Stream)

Lexicon International School, Kandy - G.C.E. Ordinary Level

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, TypeScript, Dart, C, C#, SQL, HTML, CSS
Frameworks: React, React Native, Flutter, Spring Boot, Node.js, Express.js, ASP.NET Core, FastAPI
AI/ML: Machine Learning, Deep Learning, scikit-learn, PyTorch, LangChain, LangGraph, NumPy, Pandas, Matplotlib
Databases: MongoDB, Microsoft SQL Server, PostgreSQL, Supabase
Tools & Platforms: Git, GitHub, GitHub Actions, Docker, Postman, Google Colab, Vercel, Railway

PROJECTS

Mehewara - Agentic AI-Powered Municipal Works Management System (Team) *Aug 2026 - Oct 2026*

Stack: React, TypeScript, Flutter, Dart, ASP.NET Core, C#, PostgreSQL, Python, FastAPI, LangGraph, LangChain, Docker, GitHub Actions

- Collaborated in developing a municipal works management system integrating web and mobile applications with an ASP.NET Core API and a multi-agent AI workflow for report analysis, problem consolidation, prioritization, and human-approved dispatch.
- Independently designed and developed the Problem Consolidation Agent, implementing five retrieval tools to compare citizen reports with existing problems using geographic and contextual data, recommend linking or creating problems, and flag uncertain cases for human review.
- Containerized the web frontend, backend, AI service, and PostgreSQL database with Docker and deployed the system to a VPS. Configured GitHub Actions to build and test the backend, AI, web, and mobile components, with deployment following successful CI on the main branch.

AutoCap - Domain-Specific Image Captioning & Validation System (Team) *Feb 2026 - Apr 2026*

Stack: React, TypeScript, Java, Spring Boot, PostgreSQL, Supabase, Python, FastAPI, PyTorch

- Collaborated in developing a multimodal image captioning system using a ViT + Q-Former + LLaMA 8B pipeline to generate context-aware captions for university indoor images.
- Independently designed a CLIP-based validation module using cosine similarity between image and text embeddings to filter low-quality captions through semantic alignment scoring.
- Implemented a microservice-based backend architecture using Spring Boot as the core system and FastAPI as a dedicated AI service for caption generation and validation workflows.

UniStay - Hostel Management App (Team) *Mar 2026 - May 2026*

Stack: React Native, Node.js, Express.js, MongoDB, Cloudinary, Railway

- Built and deployed REST APIs to Railway for a mobile-first hostel management system, driving core functionalities including room allocation, digital leave processing, and secure student access.
- Independently architected and developed a QR Security module utilizing Expo Camera for real-time scan validation and state-based backend logic to prevent unauthorized entry/exit events.
- Replaced manual security logbooks with per-student QR identity tokens, automating entry/exit logging by capturing student details and timestamps through real-time scan validation.

Workplace Depression Risk Predictor - ML Web Application (Personal) *Nov 2025 - Dec 2025*

Stack: React, Python, FastAPI, scikit-learn, Logistic Regression, Docker

- Trained a Logistic Regression model on a 2,054-record dataset to predict workplace risk levels and integrated it into a full-stack web application using a FastAPI backend and React frontend, enabling real-time probability-based predictions.
- Dockerized the application using Docker and Docker Compose, implementing isolated FastAPI and React services with multi-stage builds and Nginx serving React for production-ready, reproducible deployment.

Ceylon Trust Bank - Web-based Banking System (Team) *Jun 2025 - Sep 2025*

Stack: Java, Spring Boot, SQL, Microsoft SQL Server, Thymeleaf, HTML, CSS, JavaScript

- Developed a secure, role-based banking application using Spring Boot, Spring Security, JPA/Hibernate, and Microsoft SQL Server, implementing authentication, authorization, and database persistence following layered MVC architecture.
- Delivered feature-rich dashboards for multiple user roles, enabling customer account operations, administrative management, and bank staff workflows through secure access-controlled functionality.
- Designed and implemented the Observer Design Pattern to power a real-time news notification system, automatically delivering bank announcements to customers and staff based on user roles.

Quick Bite - Online Food Delivery Management System (Team) *Feb 2025 - Apr 2025*

Stack: Java, JSP, Servlets, Maven, Apache Tomcat, HTML, CSS, JavaScript

- Developed a web-based food ordering system supporting customer registration, menu browsing, shopping cart management, and order processing using the MVC architecture.
- Implemented a custom Circular Queue data structure to manage order processing efficiently and ensure first-in-first-out (FIFO) handling of customer orders.
- Developed a QuickSort-based food sorting feature to enable efficient price-based menu sorting while applying core data structures and algorithms in a practical web application.

ADDITIONAL INFORMATION

Languages: Sinhala (Native), English (Professional working proficiency)
Interests: Full-stack software engineering, Backend Engineering, LLM-based applications, and AI-driven automation systems.