



# CHAMIKA NUWANTHA

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A highly motivated, enthusiastic, and energetic graduate with a BSc. (Hons) in Information Technology from the University of Moratuwa. Skilled at balancing independent and collaborative work, with a strong ability to take initiative and deliver results effectively.

## WORK EXPERIENCE

**Intern Software Engineer** March 2024 - August 2024  
**Software Lifecycle Consultants (Pvt) Ltd**

- Developed full stack web applications using **Next.js**, **Node.js**, and **MongoDB** as part of team-based projects.
- Integrated **Redux** for state management in React-based components to enhance performance and maintainability.
- Collaborated with cross-functional teams in an Agile environment to deliver project milestones on time.
- Gained hands on experience with **.NET technologies** through minor contributions and team discussions.
- Improved debugging and problem solving skills while working on real world scenarios.

**Trainee Explorer** 2023 January - 2023 July  
**Gavesha Labs (Pvt) Ltd**

- Contributed to **hardware and prototype development** tasks, gaining hands-on experience relevant to IoT systems.
- Involved in **educational content creation** with a strong focus on **integrating software with hardware components**.
- Designed **digital schematics and technical illustrations** to support IoT based learning modules.
- Provided technical support to Gavesha platform users, helping them resolve learning and platform-related issues.
- Collaborated with cross-functional teams to align software features with educational goals.

## EDUCATION

**BSc. (Hons) in Information Technology** 2021 - 2025  
University of Moratuwa

**G.C.E. Advanced Level** 2016 - 2019  
Royal College, Colombo 07

- Mathematics - B | Physics - B | Chemistry - B

**G.C.E. Ordinary Level** 2014 - 2016  
Royal College, Colombo 07

- 8 A Passes, 1 B Pass

## RESEARCH

**AI-Powered Parking Layout Design and Optimization Module**  
University of Moratuwa

- Developed a hybrid parking layout generation module combining Conditional GAN-based parameter generation with a rule-based engine to create adaptive, regulation-compliant designs.
- Trained a cGAN model to generate context-aware design parameters (slot angle, spacing, dimensions) despite limited dataset size, improving layout flexibility and reducing manual tuning.
- Implemented a rule-based layout generator incorporating architectural standards from Neufert's Architect Data, ADA accessibility guidelines, and Sri Lanka UDA planning regulations.
- Established evaluation metrics such as slot density, geometric validity, accessibility compliance, and spatial efficiency to assess generated layouts.
- Collaborated with a 3-member research team to integrate layout generation with zone identification and dynamic allocation modules in an AI-driven end-to-end smart parking system.

## PROJECTS

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### Project Management System – Role-Based Web Application

ReactJS, Ballerina, MySQL, AWS

- Developed examiner dashboard and UI components using ReactJS for role-specific functionality.
- Built and integrated RESTful APIs with Ballerina, enabling smooth frontend-backend communication.
- Used MySQL for backend data handling and deployed the application on AWS.
- Collaborated with the team to ensure seamless integration and resolve technical challenges.

### DOA Cost of Cultivation Reporting System – Agricultural Data Management Platform

Next.js, Redux Toolkit, Node.js, MongoDB

- Developed key modules for cost calculation, crop management, and role-based profiles on both frontend and backend.
- Built dynamic UI components using Next.js and managed state with Redux Toolkit.
- Implemented backend logic in Node.js to handle data processing and role-based features.
- Worked on features like user profiles, land/crop data input, and cost tracking.
- Used JSON mock data during development and prepared the system for API integration.
- Contributed to multilingual support (Sinhala, Tamil, English) for wider accessibility.

### Paper Folding Machine – Arduino Based Automation Project

Arduino IDE, Arduino nano, C++,

- Built an automated paper-folding machine using Arduino with stepper-motor motion control.
- Implemented dynamic speed control, modular code, and logic-based I/O behavior using the AccelStepper library.
- Added safety features including reset, manual stop, and smooth acceleration/deceleration.

### Smart Study Table – Microcontroller based system

C, Atmega32, Atmel Studio, Proteus

- Built a microcontroller-based system with real-time monitoring and feedback.
- Programmed RTC and load cell modules in C and designed the required power supply.
- Integrated hardware and firmware, performing thorough testing and debugging for stable performance.

## ADDITIONAL INFORMATION

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- **Technical Skills:** NextJS, ReactJS, JavaScript, HTML, CSS, Node, Java, Python, C, MySQL, MongoDB
- **Non Technical Skills :** Team Management, Critical Thinking, Client Engagement, Teamwork
- **Languages:** English, Sinhala
- **Other:** Github, Jira, Docker

## EXTRA CURRICULAR ACTIVITIES

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### **President, FITMoments (Media Unit, Faculty of IT)**

**2024 July - 2025 July**

- Previously served as Head & Assistant Head of Creative Design Pillar, and as a member of the Photography & Videography team (2021–2023)
- Led creative teams, managed media production, and enhanced leadership and project coordination skills.

### **Assistant Head of News Operations Pillar, MoraSpirit Initiative**

**2023 April - 2024 April**

- Previously a member of the News Operations Pillar (2022–2023)
- Contributed to the media and content team under the Pillar segment, coordinating photography coverage and assisting in managing publication workflows for university sports events.

## REFERENCES

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### **Mr. Sudantha BH**

Dean

Faculty of Information Technology,

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### **Mrs. Ishara Amarasekera**

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