

# Nuwani Fonseka

Software Engineering Undergraduate

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## About Me

Detail-oriented and self-driven software engineering undergraduate with hands-on experience in full-stack development, cloud-native systems, and quality-focused engineering. Known for strong attention to detail, adaptability, and initiative in both academic and production environments, with a growing focus on scalable systems, DevOps practices, and fairness-aware AI.

## Technical Skills

**Backend & Cloud:** ASP.NET Core (.NET 8), Node.js, Express.js, RESTful API Development, JWT Authentication, Docker, Kubernetes, Google Cloud Run

**Frontend:** React.js, Next.js, Tailwind CSS, HTML, CSS, Vite

**Databases:** PostgreSQL (Supabase), MongoDB, MySQL, SQLite, Firebase

**DevOps & CI/CD:** Docker, Kubernetes, GitHub Actions, Cloud Deployment

**Testing & Quality:** JUnit, Selenium, Manual QA & UI Testing

**Programming & Research:** Java, C#, Python (Machine Learning, NLP), Fairness-Aware AI

**Tools & Version Control:** Git, GitHub, Visual Studio Code, Visual Studio, Android Studio

## Work Experience

Contributed to **11+ client projects** ranging from e-commerce platforms to banking chatbots, gaining hands-on full-stack experience across diverse client domains.

**Backend Development:** Developed user management systems using Node.js and Laravel, implemented CRUD operations, and performed database migrations between PostgreSQL and MySQL.

**Frontend Development:** Built responsive web interfaces using HTML, CSS, and JavaScript across WordPress, Shopify, and custom web applications.

**Quality Assurance:** Recognized for strong attention to detail and assigned QA responsibilities; conducted functional, UI/UX, and exploratory performance testing to ensure release readiness.

**Cross-Platform Development:** Worked across multiple technology stacks including WordPress, Shopify e-commerce platforms, and custom client applications.

**Database Management:** Migrated a multi-channel banking chatbot database between SQL and PostgreSQL, ensuring data consistency and minimal downtime.

## Projects

### Final Year Research Project (Ongoing)

Akura – Dyslexia-Aware Automated Sinhala Essay Grading System

SLIIT

2025–Present

- Ongoing undergraduate research project on a **dyslexia-aware automated essay grading system** for Sinhala language assessments.
- Designed and implemented the **Bias-Aware Scoring Engine**, focusing on fairness evaluation and mitigation in automated grading.
- Conducted model training, evaluation, and bias analysis using fairness metrics.
- Collaborated in a four-member team covering OCR, dyslexic pattern detection, sentence reconstruction, and system integration.
- **Technologies:** Python, Machine Learning, NLP, Fairness-Aware AI

### Enterprise Application Development (Group Project)

SLIIT

#### EV Charging Station Booking System

Jul–Oct 2025

- Developed core modules of a **full-stack EV charging station booking platform** supporting multiple user roles.
- Implemented **real-time slot availability logic** to handle bookings, cancellations, and session completion.
- Built responsive interfaces using **React.js** and **Tailwind CSS** and secure **RESTful APIs** with JWT-based access control.
- Integrated Android operator workflows with offline-friendly synchronization using **SQLite caching**.
- **Technologies:** React.js, Tailwind CSS, ASP.NET Core (C#), MongoDB, SQLite, JWT, Docker
- **Live Demo:** [ev-station-booking-system-web.vercel.app](https://ev-station-booking-system-web.vercel.app)

### Personal Full-Stack Project

Independent

#### LeaveFlow – Leave Management System

2025

- Built a **production-ready, cloud-native leave management system** with role-based workflows and audit logging.
- Implemented secure authentication and authorization using **JWT**.
- Developed backend services using **ASP.NET Core (.NET 8)** and deployed via **Docker** and **Google Cloud Run**.
- **Technologies:** React.js, ASP.NET Core (.NET 8), PostgreSQL, Supabase, JWT, Docker, GitHub Actions
- **GitHub:** [github.com/NuwaniFonseka/leaveflow-dotnet-api](https://github.com/NuwaniFonseka/leaveflow-dotnet-api)

### Microservices Architecture (Group Project)

SLIIT

#### FoodFlix – Cloud-Native Food Ordering Platform

May 2025

- Developed a scalable food ordering and delivery system using a **microservices-based architecture**.
- Built a responsive frontend with **React.js** and **Tailwind CSS**.
- Implemented backend services with JWT authentication, Stripe payments, and real-time notifications.
- Containerized services using **Docker** and deployed with **Kubernetes**.
- **Technologies:** Node.js, Express.js, MongoDB, React.js, Docker, Kubernetes

### Microkernel Architecture (Group Project)

SLIIT

#### School Management System

May 2025

- Implemented a modular school management system using the **OSGi framework**.
- Designed loosely coupled services with dynamic registration and lifecycle management.
- **Technologies:** Java, OSGi, Apache Felix

## Open Source Contributions

### Women in FOSS Developer Assignment

SLIIT / Women in FOSS

#### Customizable Portfolio Template

Aug 2025

- Developed an open-source, customizable portfolio template for students and early-career developers.
- Designed modular, responsive sections with dark theme support and EmailJS-based contact integration.
- **Technologies:** React.js, Tailwind CSS, Vite, EmailJS, Git, Vercel
- **GitHub:** [github.com/NuwaniFonseka/Portfolio-Template](https://github.com/NuwaniFonseka/Portfolio-Template)

### Open Source Contribution (Ongoing)

Women in FOSS

#### Women in FOSS Official Website

2025–Present

- Contributing to the official Women in FOSS website by developing and refining the **Home section**.
- Built using **Next.js (App Router)** with reusable components and modern layout practices.
- Collaborating in an open-source workflow using Git and GitHub.
- **Technologies:** Next.js, TypeScript, Tailwind CSS, Git
- **GitHub:** [github.com/NuwaniFonseka/sliitwif](https://github.com/NuwaniFonseka/sliitwif)

## Educational Background

### Sri Lanka Institute of Information Technology

Malabe, Sri Lanka

#### BSc Software Engineering

Oct 2022–Present

**Academic Performance:**

- Weighted GPA: 3.42/4.0
- **Dean's List: Year 4, Semester 1** (Semester GPA: 3.7)

**St. Peter's College Colombo 04 Negombo Branch**  
*Secondary Education*

**Negombo, Sri Lanka**  
*2008–2022*

**G.C.E. Advanced Level (2022)** - English Medium

- Combined Mathematics, Physics, Chemistry: S (Simple Pass)

## Language Proficiency

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*International English Language Testing System (IELTS)*

*Aug 2022*

- Reading: 8.5    Listening: 7.5    Speaking: 7.5    Writing: 6.5

## Soft Skills

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**Leadership & Initiative:** Serving as a Batch Representative since Year 1, coordinating between students and faculty. Took initiative in group projects by identifying pending or blocked tasks, independently researching solutions, completing critical components, and redistributing work while maintaining clear communication and team alignment.

**Communication & Collaboration:** Active member of the **Women in FOSS Club**, contributing to event organization and inter-university competitions such as *Bashaway*. Contributed to open-source projects, collaborating with cross-functional teams through coordinated tasks and discussions.

**Attention to Detail & Quality Focus:** Recognized for strong attention to detail during internship and assigned **QA responsibilities** alongside development work, including functional and UI validation to ensure production-ready releases.

**Problem Solving:** Resolved complex integration issues and acted as a mediator during team challenges, facilitating clear communication and effective resolutions.

**Adaptability & Learning Agility:** Quickly adapted to new technologies such as Docker, Kubernetes, and cloud platforms within tight academic and project timelines.

**Time Management:** Balanced multiple concurrent projects, academic coursework, research work, and internship responsibilities while maintaining consistent performance.

## Interests & Extracurricular Activities

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**Professional Engagement:** Participated in industry-led API and GenAI events, technical workshops, and field visits focused on enterprise software practices.

**Creative & Personal Interests:** Keyboard player since the age of 10 with a strong interest in music. Enjoy exploring art galleries, fashion styles, and new places. Actively maintain a personal pet-focused Instagram account, reflecting creativity, consistency, and content engagement.

**Sports & Wellness:** Enjoys recreational badminton as part of an active and balanced lifestyle.