Nayantha Nethsara

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About me

Computer Science undergraduate passionate about software engineering, cloud deployment, and collaborative project delivery. Experienced in Java, Python, and React, with hands-on work on scalable web applications, microservices, and DevOps pipelines. Strong foundation in algorithms, problem-solving, and driven by curiosity and a continuous learning mindset.

My education

SLIIT / CURRENTLY READING
BSc (Hons) in Computer Science

ANANDA COLLEGE / 2022
GCE Advance Level - Mathematics

Tools & Technologies

LANGUAGES & FRAMEWORKS:

Java C / C++ Python JavaScript TypeScript React .NET

Next.js Node.js FastAPI Spring Boot Tailwind CSS

DATABASES & PLATFORMS:

MySQL PostgreSQL MongoDB Firebase Supabase Redis

CLOUD, DEVOPS & INFRASTRUCTURE

Docker Git Linux Vercel CI/CD Postman AWS Azure

CONCEPTS & METHODOLOGIES

OOP REST Microservices SDLC Distributed Systems Agile

IDES & DESIGN TOOLS

VS Code IntelliJ Figma Blender Adobe Photoshop Canva

Project Highlight

Project-Based Learning Management System (LMS)
Developed a LMS using Spring Boot & Next.js, handling both Dev & DevOps roles with dockerzied microservices & JWT auth.
- Reduced deployment time by 30% using Github Actions.
- Collaborated with 3 teammates to deliver 10+ core features on schedule.

Sosamala Voting – Secure Online Voting Platform
Created an open-source, self-hostable voting platform handling 1,000+ concurrent users.
- Built with Next.js 14, PostgreSQL, Arcjet, and Google OAuth.
- Enforced one vote per verified user with hashed emails, server-side RLS, rate limiting, and bot detection.

TidyCourseweb – Chrome Extension for SLIIT Courseweb
Built and published a Chrome extension (JavaScript, Manifest V3) enabling students to hide/show modules.
- Adopted by 100+ students via Chrome Web Store & GitHub, improving dashboard usability and reducing clutter.

Work Experience

SLIIT UNI
DEC 2024 | PRESENT
Research Assistant Intern under Prof. Nuwan Kodagoda

Began as a Generative AI Research Intern and later joined the COE-AI Research Team.
- Contributed to 3+ AI tools and 2 academic presentations in education technology.
- Developed a Gemini-based recommender chatbot, a prototype face id system (90%+ accuracy), & an OCR tool (~20 improvement vs Tesseract) using FastAPI for backend.
- Designed & launched the COE-AI web with CMS, enabling non-technical updates and cutting update time by 50%.

RoboticGen
JAN 2025 | APRIL 2025
Associate Software Engineer (Part-Time) - RoboticGen

Worked closely with cross-functional teams to develop efficient software solutions.
- Enhanced and maintained software components for robotics systems and internal tools.
- Delivered 5+ major features on schedule, collaborating on planning and implementation.
- Optimized performance and improved code quality, reducing bugs by 20% through reviews and refactoring.

RoboticGen Academy
NOV 2024 | FEB 2025
Robotics Instructor - RoboticGen Academy

Guided students as a Level 2 Mentor, helping them build practical skills and confidence.
- Mentored 30+ students in one-on-one sessions and assisted in 5+ workshops.
- Supported 2 exhibitions showcasing student projects and promoting STEM engagement.

Key Achievements

Winner – VibeFlow AI Hackathon (2025)

Secured 1st place among 15 finalists (340+ registrations) by developing an AI-powered prototype with real-world impact.

Dean's List – SLIIT (2024)

Achieved a 3.7+ GPA in 2024 academic year demonstrating consistent academic excellence & strong performance.

Finalist – National Olympiad in Informatics (2019)

Recognized among the top 10 school-level competitive programmers in Sri Lanka for problem-solving skills using C++, contributed to my school winning the Best School award.

Leadership

CSSC

President (current)
Lead the university's CS community and drive student-focused tech initiatives.
- Organize 5+ tech events, reaching over 500+ participants.
- Launch peer-learning programs that boost member engagement by 40%.
- Build and manage a core team of 15+ members to promote leadership and teamwork.
- Partner with industry professionals and alumni to deliver high-impact sessions.

ACICTS FEB 2021 | FEB 2022

Vice President
Ananda College ICT Society (ACICTS). Led student-driven ICT initiatives.
- Coordinated 10+ coding competitions and events, engaging 200+ participants.
- Conducted morning teaching sessions for 50+ students to build foundational ICT knowledge.
- Represented ACICTS in inter-school competitions and secured 5+ team victories.

Additional Achievements

Academic & Technical
- Finalist – IEEE R10 Robotics Competition (2024)
- Finalist – Algothon Compatitive Programming Contest, CODEFEST (2025)
- MicroMaze Micromouse – IIT IEEE Competition (2024)
- Top Participant – Reply Code Challenge (2021, 2023 & 2024)
- Participant – Google Code-in (2018 & 2019) – Completed 10+ tasks, contributing to multiple open-source projects
- 9As – G.C.E. Ordinary Level | Ananda College Prize-Giving Honoree
- Winner/Runner-up – ICT Day Competitions at St. Peter's, Wesley, and Museaus Colleges

Sports & Athletics
- Ananda College Road Race Top 10 – 2018 | 2019
- KDU Inter-University Meet – 5000m Track Event
- Ananda College Sport Meet – Track & Field Events

Esports & Gaming
- Champion – Interschool Esports Championship (Dota 2) (2018, 2019, 2022 – Multiple titles over 3 years)

Projects & Initiatives

Creativo Code
A startup rooted in the collaborative efforts of the Ananda College ICT Society
- Led UI/UX and branding efforts across 5 client projects.
- Contributed to design and development of 5+ digital products, combining innovation, usability, and impact.

DSL Compiler & GUI for HTML Form Generation
Built a DSL compiler using Lex, Yacc, and Rust.
- Designed a Tauri-based GUI for live preview.
- Use CLI flags for theme, shape, and style options.

Medhub – Patient Management System
Created a PMS using Spring Boot for small-scale hospitals.
- Implemented patient records, appointments, billing & ect.
- RESTful APIs with role-based access & secure auth.
- Dockerized services and used PostgreSQL for DB.

GitHub Profile-Based Minesweeper Game
An interactive Minesweeper game using GitHub README images as the board. Implemented real-time state updates with Upstash Redis and a Next.js API, ensuring synchronized gameplay without CDN caching issues.

AquaClash Swimming Scoreboard Application
Built a serverless Next.js and Firebase app to manage real-time scores for 50+ events with 200+ participants, handling 1,000+ concurrent users and providing instant updates for competitors and spectators

Micromouse – Autonomous Maze-Solving Robot
Executed an ESP32-based robot in C++ to autonomously solve mazes using the flood-fill algorithm, integrating gyroscope feedback and motor control, achieving successful navigation in 3 test mazes with 95% accuracy.

Sosamala – IoT Sensor Monitoring & Control System
ESP32-based IoT platform with sensors and MQTT for real-time monitoring and remote device control.

Co-Developer - Battle of the Maroons Live Score App - 2019
Co-developed a real-time scoring platform for the Big match.
- Delivered live updates to 2,000+ online viewers.
- Used Firebase & React for real-time syncing & UI rendering.

Volunteer Experience

Session Conductor – SLIIT FCSC Study Support
Delivered over 5+ academic support sessions organized by the Faculty & Department, assisting 500+ peers.

Technical Crew – Ananda College Prize-Giving (2019–2020)
Operated live broadcast systems and managed stream quality for 2+ annual school prize-giving events, ensuring smooth and uninterrupted technical execution.

References

Prof. Nuwan Kodagoda
BSc Eng (Hons) – University of Moratuwa
MPhil – University of Moratuwa | PhD – Sheffield Hallam
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