Dinujaya Sandaruwan Bandara

Full-Stack Software Developer

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Summary

Full-stack software developer and University of Colombo undergraduate who builds web, mobile and desktop software end to end, from design through deployment and maintenance. Has helped companies and institutions digitize their products through projects and contracts. Specializes in research and development, and is now focused on low-level programming in Rust and on building the most efficient solution, not just a working one.

Technical Skills

Languages: JavaScript, TypeScript, Python, Go, Swift, Rust, PHP, Java, Kotlin, C, SQL

Frontend: React, Next.js, HTML, CSS, SCSS, Tailwind CSS, Three.js

Backend: Node.js, Express, NestJS, Django, Spring Boot, Laravel, FastAPI, REST APIs, WebSockets

Databases: MongoDB, PostgreSQL, MySQL, Redis, Firebase, Supabase

Mobile and Desktop: React Native, Android, SwiftUI, Electron

Cloud and DevOps: Linux, Docker, Nginx, DigitalOcean, Hostinger, Bluehost, Namecheap, Microsoft Azure, GitHub Actions, CI/CD, Git

Machine Learning: PyTorch, Computer Vision, MediaPipe, WebAssembly

Engineering: Research and Development, Software Architecture and System Design, End-to-End Software Development

Work Experience

Full-Stack Software Developer, Research and Development 2024 – Present
Caissa Chess Academy, Sri Lanka

- Started on a small contract to build a learning management system, then was hired full time to research, design and develop the academy's wider software platform.
- Built the connected set of applications that runs the academy, serving 150+ students, 200+ parents, 9 coaches and 13 branches. Every product below can be tried at demo.caissachess.org.
- Student LMS (demo.lms.caissachess.org): homework, mistake review, lesson recordings and practice rewards.
- Parent Portal (demo.parent.caissachess.org): ratings, games, homework, fee payments and coach messaging.
- Coach Portal (demo.coach.caissachess.org): class scheduling, puzzle homework, points and game review.
- Admin Console (demo.admin.caissachess.org): approvals, branches, fees, reports and WhatsApp updates.
- Playground (demo.playground.caissachess.org): live classes with pairing, board monitoring and bot games.
- Puzzle Race (demo.race.caissachess.org): real-time chess puzzle racing with leaderboards.
- Also delivered online fee payments, a video course marketplace and the servers that run the whole platform.
- Currently developing machine learning solutions, building what we aim to make the most advanced chess machine learning platform in Sri Lanka, and one that can compete worldwide.

Freelance Mobile Developer 2024 – 2025
Sri Tech Computers, Sri Lanka

- Built the shop's mobile app for quotations, order tracking, advance payments, stock management and cloud sync. Source: github.com/Dinujaya-Sandaruwan/Qoutation-Generator-For-Sri-Tech-Computers

Freelance Video Editor 2021 – 2023
Fiverr

- Edited videos for paying clients, managing each job independently from brief to final delivery.

Projects

Aventrix Connect | Official WhatsApp messaging platform for Aventrix Digital | connect.aventrixdigital.com

- Connects to Meta's official WhatsApp Business API so companies can send bulk campaigns, manage replies and manage their finances in one place, with a built-in credit system for billing.
- Built first for Malaysia, with expansion to Sri Lanka planned. Now working through Meta Tech Provider verification so that other companies can register with Meta through Aventrix.

Technologies: Next.js, React, MongoDB, Meta WhatsApp Business API

Interactive Developer Portfolio | A working operating system inside the browser | dinuu.me

- Visitors enter a 3D room and turn on a computer that boots a fully working operating system in the browser.
- Runs real Linux through WebAssembly in around 27 MB. Projects a window manager through an emulator so that real desktop software displays in the browser, letting visitors install software and do actual work.

Technologies: WebAssembly, Linux, HTML, CSS, JavaScript

FoT Inventory | Official inventory system, Faculty of Technology, University of Colombo

- Entrusted by the Head of the ICT Department with building the system, which is now in production.
- Includes a mobile app for technical officers to update inventory and scan QR codes. Uses a NoSQL database because inventory items vary widely and fit naturally as flexible objects.

Technologies: React, Express, MongoDB, Mobile App Development

Ginglu / Akshi Social Robot | Master of Philosophy research project, February 2026 – July 2026

- Developed the robot's operating software while the lead researcher built the hardware, working under the supervision of a lecturer. The project was completed successfully.

Technologies: Python, Raspberry Pi, MediaPipe

Lite Streamer | Native live streaming app for macOS | litestreamer.github.io

- Built after traditional streaming software overheated a fanless MacBook Air. Connects directly to macOS APIs, using about 17% of one CPU core while streaming and recording at 1080p.
- Released as open source. A companion screen recording app using the same technology is now in development.

Technologies: Swift, SwiftUI, Metal, macOS APIs

ChesserGun | Chess platform for players, coaches and academies, partnered with Caissa Chess Academy

- Combines game analysis, a proprietary machine learning model that converts photos of board positions into FEN, online classes and homework. In internal alpha testing ahead of launch.

Technologies: React, Node.js, Python, PyTorch, Machine Learning, Computer Vision

Internship Management System | Faculty of Technology, University of Colombo

- Official system, built by an ICT Society team at the faculty's request, that streamlines the six-month internship process and keeps a knowledge base of past internships for staff. In alpha review for the next intern cohort.

Research Portal | Faculty of Technology, University of Colombo

- Official portal in development with the ICT Society, helping the university credit research, attract external researchers, manage teams and allocate resources.

School and Education Zone Platforms | Mayurapada Central College, Narammala | mayurapada.lk

- Built the college's official website. Latest source: github.com/Dinujaya-Sandaruwan/mayurapada.lk
- Built a new A/L Admission Portal each year as part of a small team, handling 900+ student applications in a single intake. Latest source: github.com/Dinujaya-Sandaruwan/AL-Application-System
- Built learning management systems for the college and the Giriulla Educational Zone.

Technologies: WordPress, PHP, JavaScript, TypeScript, Next.js, HTML, SCSS

Education

Bachelor of Information and Communication Technology (Honours) Undergraduate
University of Colombo, Faculty of Technology, Sri Lanka | GPA: 3.35 / 4.00

G.C.E. Advanced Level
Mayurapada Central College, Narammala, Sri Lanka

Leadership and Volunteering

Vice President, ICT Society | Faculty of Technology, University of Colombo
Building university platforms and organizing ICT events.

President, ICT Society | Mayurapada Central College, Narammala
Helped develop ICT infrastructure at the college, surrounding schools and the Giriulla Educational Zone.

Event Organizer, Moderator and Volunteer | IEEE Computer Society

Additional Information

Strengths: Logical thinking, deep focus, ownership and responsibility, working under pressure
Languages: English, Sinhala

References

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