

Oshadha Wijayarathne

Computer Science & Engineering Undergraduate · Software Engineering

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PROFILE

Computer Science and Engineering undergraduate at the University of Moratuwa with hands-on experience building full-stack applications, mobile identity workflows, backend systems, developer tools, and systems-oriented academic projects. Seeking a software engineering internship focused on reliable and maintainable software.

EDUCATION

University of Moratuwa, Sri Lanka 2024 — Present

B.Sc. Engineering (Hons) in Computer Science & Engineering · CGPA: 3.76 / 4.00

- Dean's List: Semesters 3 and 4.
- Coursework: Data Structures & Algorithms, Database Systems, Operating Systems, Computer Networks, Software Engineering, Computer Architecture, and Advanced Software Engineering.

Institute of Java and Software Engineering, Sri Lanka 2023

Comprehensive Master Java Developer Diploma · 8 months

Java, OOP, MySQL, application architecture, design patterns, web development, React, Spring Boot, and JavaFX.

Richmond College, Galle 2022

G.C.E. Advanced Level · 3 A passes

SELECTED PROJECTS

RepoLens — Codebase Analysis & Dependency Visualisation (Individual · In progress) GitHub

Next.js, TypeScript, TypeScript Compiler API, React Flow, Tailwind CSS

- Built an AST-based explorer that scans local workspaces or public GitHub repositories, extracts imports, exports, functions, and classes, and constructs an interactive dependency graph.
- Implemented ranked repository search, external-dependency summaries, an explainable onboarding path, and rule-based file-risk signals.

UniAttend — Smart Attendance Platform (Team of 4 · In progress) GitHub

React Native, Expo, TypeScript, Keycloak, OpenID Connect, PostgreSQL, GitHub Actions

- Established the mobile foundation and implemented the merged Keycloak Authorization Code Flow with PKCE, secure token storage, session restoration and refresh, logout, authentication-based routing, and student profile workflow.
- Configured Jest, React Native Testing Library, and GitHub Actions mobile checks. Current feature-branch work adds token validation, Keycloak user mapping, protected profile endpoints, and geofence validation.

Pharma Availability Control Tower (Team of 4 · Working MVP) GitHub

FastAPI, Next.js, SQLAlchemy, MySQL, Docker, Render

- Built substantial FastAPI route groups for inputs, dashboard data, orchestration, plan review, reports, and demo operations in a planner-facing pharmaceutical distribution MVP.
- Added vessel and lorry operational simulators, deployment configuration, and responsive frontend-shell improvements. Model development is a team outcome and is not claimed individually.

Disaster Response System (Team of 20) GitHub

Next.js, TypeScript, Socket.IO, Kafka, PostgreSQL, Docker, Vitest

- Built the initial command-centre pages and interactive incident map plus authentication context, reusable route guards, typed permissions, shared contracts, mock data, and tests for permissions, filters, validation, and dashboard statistics.
- Later team work connected the map to live Socket.IO updates; that integration is not claimed as an individual contribution.

Flower Exchange — C++ Order-Matching Simulator (Individual) GitHub

C++, STL, Multithreading, TCP/IP, Node.js, WebSockets, React

- Implemented order validation, price-time priority, partial executions, per-book locking, a multithreaded TCP server, and batch CSV processing.
- Connected a React dashboard through a Node.js Socket.IO-to-TCP bridge for live order entry and execution reports.

Java, Lexical Analysis, Recursive-Descent Parsing, AST, CSE Machine

- Co-developed a Java pipeline that tokenises RPAL, constructs and standardises an abstract syntax tree, and evaluates programs using a Control-Stack-Environment machine.

TECHNICAL SKILLS

Languages	C++, Java, Python, TypeScript, JavaScript, SQL
Backend	FastAPI, Node.js, Express, REST APIs, SQLAlchemy, Spring Boot
Frontend & mobile	React, Next.js, React Native, Expo, Redux Toolkit, Tailwind CSS
Data & messaging	PostgreSQL, MySQL, MongoDB, Redis, Kafka
Authentication	Keycloak, OAuth 2.0, OpenID Connect, PKCE, JWT, Spring Security
Cloud & DevOps	AWS, Docker, Git, GitHub Actions
Testing	Jest, React Native Testing Library, Pytest, Vitest

CERTIFICATIONS & TRAINING

- High-Performance and Mission-Critical Software Development Using C++ — LSEG
- AWS Academy Graduate: Cloud Foundations
- AWS Academy Graduate: Microservices and CI/CD Pipeline Builder

ACTIVITIES

- Partnership Development Committee Member — CSESS, University of Moratuwa
- Partnership Development Committee Member — Hit the Grounds
- Publicity Committee Member — SLIoT Competition