

Laknath Gunawardhana

Software Engineer | Full-Stack Developer | Associate Software Engineer

laknathgunawardhana@gmail.com | +94 71 914 5297 | <https://main--laknathweb.netlify.app/>

PROFESSIONAL SUMMARY

Software Engineering undergraduate with one year of industry experience as a Trainee Software Engineer at hSenid Mobile Solutions. Experienced in full-stack development using Java, JavaScript, TypeScript, Spring Boot, Node.js, Express.js, React, Next.js, REST APIs, Docker, Git, Keycloak, MongoDB, MySQL, and PostgreSQL. Built and maintained chatbot-platform features, Chrome extensions, Electron desktop applications, authentication flows, and database-backed web solutions. Also experienced in machine-learning research, graph neural networks, concurrent programming, and optimization-based software projects.

TECHNICAL SKILLS

Languages: Java, JavaScript, TypeScript, Python, PHP, SQL, HTML, CSS

Backend: Spring Boot, Node.js, Express.js, RESTful APIs

Frontend: React.js, Next.js, Electron, Chrome Extensions

Databases: MongoDB, MySQL, PostgreSQL

Tools & Practices: Docker, Git, Keycloak, Agile, SOLID Principles, Clean Code, Multithreading, Concurrency

Security & Data: IAM, RBAC, ABAC, STRIDE, DREAD, SQL Injection, XSS, MITM, AES, RSA, SHA-256, Integer Programming

EXPERIENCE

Associate Software Engineer | Ezugi | Sep 2026 - Present

- Building backend components for an application using Python, PostgreSQL, SQLAlchemy, and Docker.
- Developing database-backed backend logic, writing SQL queries, and supporting ORM-based data access workflows.
- Supporting data migration activities, backend feature implementation, and application-level data handling.
- Applying clean coding, debugging, version control, and collaborative engineering practices in a full-time development role.

Trainee Software Engineer | hSenid Mobile Solutions (Pvt) Ltd | July 2024 - June 2025

- Developed, maintained, and optimized features for an AI-powered chatbot platform using JavaScript, TypeScript, Java, Node.js, Spring Boot, React, and Next.js.
- Engineered Chrome extension and Electron desktop application features using modern web technologies.
- Integrated secure QR-based WhatsApp authentication and handled complex session-management flows.
- Worked with RESTful APIs, Keycloak, MongoDB, MySQL, PostgreSQL, Docker, and Git in an Agile development environment.
- Applied SOLID principles, clean coding practices, debugging, and cross-functional collaboration to deliver maintainable software features.

Academic Researcher (Machine Learning) | Informatics Institute of Technology | 2025 - Present

- Conducting machine learning research using Graph Neural Networks and hybrid late-fusion models for football match outcome prediction and post-match passing-network classification.
- Co-authored the manuscript "Outcome-Linked Post-Match Classification of Football Passing Networks Using a Hybrid Late-Fusion Graph Neural Network," submitted to IEEE Access.
- Contributed to model development, experimental design, result interpretation, technical writing, and the preparation of diagrams and methodology descriptions with academic supervisors.

SELECTED PROJECTS

Scalable Exam Submission System | Java, Multithreading, Concurrency

- Engineered a thread-safe backend concept designed to handle 100,000+ concurrent university exam submissions.
- Implemented exception handling, thread-safe data structures, timeout prevention, and execution statistics for success/failure tracking.

Agricultural Crop Prediction Web Application (GOVI SEVANA) | Machine Learning, Python

- Co-developed a web application to support crop planning by addressing overproduction and underproduction challenges.
- Implemented machine-learning based yield prediction, demand-supply insight generation, and price forecasting features.

Automated A&E Patient Management System | Java, Multithreading, Concurrency

- Developed a concurrent patient-routing system for continuous arrivals and real-time specialist allocation.
- Designed automated 12-hour shift rotation logic to reduce sequential processing bottlenecks and support 4-hour processing targets.

Optimization Modeling & Scheduling | Operations Research, Integer Programming

- Designed a binary Integer Programming model to solve a multi-variable scheduling problem under operational constraints.
- Converted time conflicts, prerequisite mappings, and resource limits into algebraic parameters for optimal schedule generation.

Cybersecurity and Secure Architecture Labs | Kali Linux, Threat Modeling, Cryptography

- Configured a secure virtual lab for vulnerability assessment and simulated attacks including SQLi, XSS, and MITM.
- Applied STRIDE/DREAD threat modeling and foundational AES, RSA, and SHA-256 concepts for secure architecture design.

EDUCATION

BSc (Hons) Software Engineering | University of Westminster, UK (Affiliated with Informatics Institute of Technology, Sri Lanka) | 2022 - Present

Chartered Institute of Management Accountants (CIMA) | Certificate Level completed; Operational Level objective exams completed; Operational Case Study pending | June 2024 - Present

GCE Advanced Level - Science Stream | Combined Mathematics (S), Physics (S), Chemistry (C), General English (A) | March 2022

ADDITIONAL ROLE-RELEVANT STRENGTHS

- Object-oriented programming, data structures, algorithms, SOLID principles, and clean-code practices for maintainable software development.

- Practical exposure to API integration, authentication workflows, database-backed features, Git-based collaboration, and Agile delivery.
- Good foundation in Java multithreading, concurrency concepts, exception handling, debugging, and basic secure programming practices.
- Able to learn new frameworks and tools quickly while communicating clearly with technical and non-technical stakeholders.

CERTIFICATIONS

- Coursera: Basics of Data Analytics; HTML, CSS, JavaScript; Supervised Machine Learning: Regression and Classification; Advanced Learning Algorithms
- LinkedIn Learning: Artificial Intelligence Foundations - Machine Learning; React.js
- Open Learning Platform - University of Moratuwa: Programming in Python; Web Development - Web Design for Beginners

LEADERSHIP & ACHIEVEMENTS

- Senior Prefect, Rahula College (2017-2021): leadership, teamwork, communication, and dispute-resolution experience.
- Delegate, Model United Nations (2015-2017): public speaking, negotiation, and analytical problem-solving experience.
- National-level swimming and martial arts competitor; awarded College Colors and Merit Award, with achievements in swimming, Wushu, football, and karate.

REFERENCES

Available upon request.