

Sahan Abeyrathna

 [Github](#) |  [LinkedIn](#) |  [Portfolio](#) |  Mobile: +94-775229132



EXPERIENCE

- **London Stock Exchange Group (LSEG)** Sri Lanka
Software Engineering Intern Dec 2024 – May 2025
 - **Data Migration and Automation:** Automated changelog creation for data migration tasks between Oracle and PostgreSQL databases using Python tools including exporter, importer and migration creator.
 - **Chaos Engineering:** Performed resilience testing on the Kubernetes-deployed trading system using LitmusChaos to identify system vulnerabilities and ensure robust fault tolerance.
 - **System Modernization:** Converted a legacy trading system from C++ to Rust, leading to improved performance and resource efficiency.
 - **Kubernetes Deployment:** Contributed to deploying a high-performance trading system in Kubernetes, enhancing scalability and maintainability.
- **University of Moratuwa (ENTC)** Sri Lanka
Teaching Assistant Sep 2025 – Dec 2025
 - **Teaching Assistant:** Conducted undergraduate laboratory sessions in analog and digital electronics, telecommunications, and Raspberry Pi-based projects.

EDUCATION

- **University of Moratuwa Srilanka** Engineering
Undergraduate (Electronics and Telecommunication Engineering) July 2022 - July 2026
 - * **CGPA:** 3.82/4.0 & **Transcript link**
 - * **Deans List:** semester 1, semester 2, semester 4, semester 6
 - * **Related Modules:** Image processing and computer vision, pattern recognition, Data structures and algorithms, wireless networks, Applied Statistics, Circuits and Systems Design, Robotics, calculus, linear algebra, Computer organisation
- **Dharmaraja College**
High School (2017-2022)
 - * **G.C.E Advanced level:** 3 A's, rank 398 **Certificate link**
 - * **G.C.E Ordinary level:** A passes for all subjects & **Certificate link**
- **London Stock Exchange (LSEG)** Sri Lanka
High Performance and Mission Critical Software Development Using C++
 - * Algorithm development, High performance computing:

PROJECTS

- **RPPG based neonatal Health Monitoring System(Ongoing):** Developing a contactless neonatal monitoring system using rPPG signals to estimate heart rate, SpO2, blood pressure, and detect jaundice. Designing a mobile based solution with privacy preserving techniques, aimed at providing non-invasive, practical, and parent friendly neonatal care.
[GitHub repository](#)
- **Web-based system for managing transformers and their associated thermal imaging data:** Developed an AI-powered web platform for predictive transformer maintenance, featuring automated thermal anomaly detection via baseline image comparison. Implemented a "human-in-the-loop" workflow allowing engineers to refine AI detections for model retraining, and automated the generation of comprehensive maintenance records to streamline inspection documentation. **Technologies:** [React.js, Python, Springboot, TensorFlow, PostgreSQL, Docker]
[GitHub repository](#)

- **WealthWave: Modern Full-Stack Banking Platform:** WealthWave Banking Application Built a production-ready fintech platform for real-time banking and secure fund transfers using Next.js 14 and Appwrite. Integrated Plaid and Dwolla APIs to enable multi-bank account aggregation and seamless ACH payment processing. Implemented Server Actions and Zod validation to ensure enterprise-grade security and performance, featuring a responsive financial dashboard built with TailwindCSS and Chart.js. **Technologies:** Next.js 14, TypeScript, Appwrite, Plaid, Dwolla, React Hook Form, Zod, TailwindCSS, Chart.js, Sentry
[GitHub repository](#)
- **VR based speech practicing platform:** Developed a VR application using Unity and Meta Quest platforms to help users overcome stage fear and improve public-speaking confidence. Features include multiple virtual venues, customizable audiences, real-time anxiety tracking, and AI-powered feedback for personalized performance improvement.
[GitHub repository](#)
- **Analog Wall following Robot:** Designed and built an analog wall following robot that navigates the midpoint between two walls using IR sensors and a PID control circuit, without microcontrollers. Key tasks included designing instrumentation amplifiers, PID circuits, PWM generators and motor drivers.
[GitHub repository](#)
- **Smart Plug:** Developed smart extension cord, an IoT integrated smart extension cord powered by ESP8266 and Atmega328. Features include voice control with Google Assistant and Amazon Alexa, Google Home integration, scheduling via Google Calendar, remote control and USB adaptive charging. Addressed safety concerns by creating an automatic power down feature for irons.
[GitHub repository](#)
- **Agni Robot:** Developed the AGNI Robot powered by Arduino Mega 2560, featuring precise line following, wall avoidance, ramp navigation (20 degrees), object interaction with a mechanical arm, sound sensitivity, color detection, maze-traversing capabilities, and obstacle avoidance, including guard robots.
[GitHub repository](#)
- **Zero Gravity Lifting Device:** This project addresses the limitations of traditional lifting equipment, such as cranes and hoists, by providing precise control, reducing ergonomic hazards and streamlining operations. The device integrates advanced electronics, including sensors for auto weight sensing and auto balancing and responsive electronic control systems that ensure precise load manipulation. [GitHub repository](#)

CERTIFICATIONS

- **Machine Learning Specialization:** Stanford University DeepLearning.AI
- **Problem Solving, Python, C++:** HackerRank 5 stars
- **Artificial Intelligence:** IBM
- **Programming for Everybody:** University of Michigan
- **Building RAG Agents with LLMs:** Nvidia
- **Differential Equations for Engineers:** Honk Kong University of Science and Technology

ACHIEVEMENTS

- ICE ideathon winners (Prof. Suranga Nanayakkara, National University of Singapore)
- SLIOT Finalists (Department of Computer Sceince Engineering, UoM IESL)
- Signal Processing Cup top 50 teams (IEEE Signal Processing Society and MathWorks)
- CodeSprint 8 - Top 10 (Ideate Phase)(IEEE Student Branch of IIT, IEEE Computer Society)

SKILLS SUMMARY

- **Softwares:** Matlab, SolidWorks, Modelsim, AutoCAD, Quartus Prime, Wire Shark, Altium
- **Programming Languages:** Python, C++, C, Matlab, RUST
- **Languages:** English (professional proficiency), Sinhala (Native proficiency)
- **Soft Skills:** Leadership, Teaching, Event Management, Writing, Public Speaking, Time Management

VOLUNTEER EXPERIENCE

- * **Technical Coordinator at Sri Lankan Robotic Challenge** Electronic club, ENTC
Successfully distributed technical knowledge to school students by building 10 practice robotic kits from scratch. Organized the biggest robotic competition in Sri Lanka, inspiring and engaging young minds in the field of robotics. This initiative not only fostered hands on learning and creativity but also promoted teamwork and problem solving skills among students.
- * **Department Representative** Electronics and Telecommunications Engineering
Representing student interests within the department, coordinating the career fair and academic events, facilitating communication between students and lecturers.

- * **Human Resource Manager** Electronic Club, ENTC
 Evaluated student related challenges within the department and contributed to the design of a new point-based selection framework for internship applications.
- * **People Management and H4TF** AEISEC, Univerity of Moratuwa
 Raised partnerships for the organization and successfully managed its personnel
- * **Sasnaka Sansada Organisation** Sri Lanka
 Volunteered in teaching mathematics to underprivileged students in Sri Lanka, leading teams that collectively reached over 65000 students.
- * **Teaching Assistance** Dharmaraja College Kandy
Volunteered to teach Advanced Level subjects at the school.

REFERENCES

- Dr Sampath K. Perera,
 B.Sc. Eng. (Moratuwa, Sri Lanka), M.E.Sc (Western, Canada), P.hD. (RUB, Germany), MIEEEE, Senior Lecturer, Department of Electronic and Telecommunication Engineering, Faculty of Engineering, University of Moratuwa, Moratuwa, Sri Lanka.
 E:sampathk@uom.lk
 M:+94(0)705726264
- Dr. Kasun T. Hemachandra,
 B.Sc. Eng. Hons. (Moratuwa) M.Sc. (Alberta, Canada) Ph.D. (Alberta, Canada), MIEEEE Senior Lecturer
 Department of Electronic and Telecommunication Engineering, Faculty of Engineering, University of Moratuwa,
 Moratuwa, Sri Lanka.
 kasunh@uom.lk
- Dr. Tharaka Samarasinghe,
 Senior Lecturer Department of Electronic and Telecommunication Engineering
 University of Moratuwa, Sri Lanka.
 Email: tharakas@uom.lk
 Tel: +94 11 2650634/5 Ext 3323