

Suwasthiga Nagendramoorthy

Department of Computer Science and Engineering, University of Moratuwa.

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Github: [Suwasthi](#)  Portfolio: [SuwasthigaN](#) 

About

Passionate and highly motivated undergraduate Computer Science and Engineering student at the University of Moratuwa with a strong focus on IoT and embedded systems. Experienced in designing and developing IoT solutions involving sensor integration, wireless communication, and real-time data processing. Skilled in programming languages, with hands-on projects that demonstrate ability to create connected, smart devices. Eager to contribute to innovative IoT applications that improve everyday life and drive digital transformation.

Education

BSc Engineering (Hons) in Computer Science and Engineering. **Feb 2023 – Present**
University of Moratuwa, Sri Lanka.
Currently pursuing the Integrated Computer Engineering (ICE) stream

G.C.E. Advanced Level Feb 2022(2021)
J/ Vembadi Girls' High School, Sri Lanka.
Combined Mathematics - A, Chemistry - A, Physics - A
Island-wide Rank: 125
District(Jaffna) Rank: 9
Z-Score: 2.5340

G.C.E. Ordinary Level Nov 2018
J/ Vembadi Girls' High School, Sri Lanka.
Results: 9A's
Maths - A, English - A

Projects

Smart Helmet with Alcohol Detection and Emergency Alert System *Ongoing*
Built with ESP32, the helmet detects alcohol, crash events, and wear status. Disables ignition on alcohol detection and sends GPS/emergency alerts via SIM800L and Bluetooth. Focused on sensor integration and embedded communication.

4-bit Nanoprocessor Design
Designed a 4-bit processor on BASYS 3 FPGA with a custom 12-bit instruction set. Implemented VHDL modules for instruction decoding, program ROM, ALU, and control logic. Verified functionality through simulation and on-board testing.

Smart Medibox for Medicine Reminders and Environmental Monitoring
Built a smart medibox with ESP32 for alarm-based medicine reminders and real-time environmental monitoring (temperature, humidity, light). Enabled remote configuration via MQTT using Node-RED and dashboard UI for control and monitoring.

SportsHive – All-in-One Sports Platform
Created a web platform for sports management with features like coach/ground booking, club joining, academy applications, and competition tracking. Used modern web frameworks and real-time databases to ensure seamless UX for athletes and organizers.

Awards and Achievements

1st Runner-Up – HackElite 1.0, IEEE WIE Student Branch Affinity Group of University of Moratuwa. Oct 2024

Awarded 1st Runner-Up in HackElite 1.0. Collaborated with my teammates to develop an innovative solution that impressed the judges, demonstrating strong teamwork and technical expertise.

Most Popular Idea Award – SportsHive at SpiritX Final Round, Top 10 Teams 2025

Received the Most Popular Award in the final round of SpiritX among the top 10 teams for the SportsHive project.

Skills

Programming Languages: C++, Java, Python, SQL.

Web Development: React, HTML, CSS, JavaScript.

Embedded Systems & Electronic Design: Arduino, ESP32, STM32, Verilog HDL.

Tools & Platforms: Vivado.

Professional Affiliations and Services

CS & ES Student Representative: Department of Computer Science & Engineering, Faculty of Engineering, University of Moratuwa. 2023-2024

Member: Mathematics Society, University of Moratuwa. 2024-Present

Member: HR panel, Mora Lenz, University of Moratuwa. 2024 - Present

Referees

Prof. (Ms) Dulani A. Meedeniya

Semester 5 Coordinator, Department of Computer Science & Engineering, Faculty of Engineering, University of Moratuwa, Sri Lanka.

Email: dulanim@cse.mrt.ac.lk

Dr. Adeesha Wijayasiri

Industrial Training Coordinator, Department of Computer Science & Engineering, Faculty of Engineering, University of Moratuwa, Sri Lanka.

Email: adeeshaw@cse.mrt.ac.lk