

Madusha Suraweera

Electronic Engineer—Embedded Engineer—AI Engineer

📞 +94 77 9408269 ✉ madushasuraweera@yahoo.com 🏠 71/41, Galudupita, Ragama, Sri Lanka
📅 18th September 1995 💻 in/MadushaSuraweera 🌐 github.com/Madusha95

Profile

Experienced and self-motivated engineer with over 4 years of expertise in Electronics and Embedded Engineering, complemented by an MEng in Electronic and Electrical Engineering from the University of the West of England. Currently pursuing an MSc in Embedded Systems and IC Design to further refine skills in embedded systems and integrated circuits. Passionate about leveraging new technologies, fostering innovative problem-solving, and delivering impactful solutions, with particular interests in Robotics, IC Design, PCB Design, and AI. Proven ability to excel in team environments and under pressure, consistently demonstrating a commitment to pushing the boundaries in the engineering field.

Professional Experience

IPD Colombo (Pvt) Ltd *Embedded Engineer - AI* **Colombo 05, Sri Lanka** 01/2023 - present

- Working on AI and IoT Projects (Building Management Systems (BMS) and Chat Bots).
- Engaging in RnD Projects (Arduino and Raspberry Pi).
- Performing CI/CD Operations.

East Link Engineering Company (Pvt) Ltd *Electronic Engineer* **Colombo 05, Sri Lanka** 09/2021 - 12/2022

- Worked in the RnD Division on ATM, Vending Machines, and Kiosks.
- Participated in RnD Projects including:
 - CPM (Cinnamon Processing Machine), RMB (Recycle Material Buying) Vending Machine, LVM (Liquid Volume Measuring) Vending Machine, SWS (Self Weighing Station) Machine, Solar Experience Center, EV Charging Station
- Led the RnD Division as a Tech Lead.
- Performed PCB Designing and Troubleshooting.

East Link Engineering Company (Pvt) Ltd *Asst. Electronic Engineer* **Colombo 05, Sri Lanka** 03/2021 - 09/2021

- Worked in the RnD Division on ATM, Vending Machines, and Kiosks.
- Performed PCB Designing and Troubleshooting.

SriLankan Airlines *Trainee Engineer* **Katunayake, Sri Lanka** 10/2019 - 01/2020

- Gained experience in the Engineering Department including Technical Servicers and Avionics Workshops.

Piramal Glass PLC *Trainee Engineer* **Horana, Sri Lanka** 09/2018 - 12/2018

- Worked in the Electronics Section including Instrument workshops and Electrical Workshops.
- Completed a project to reduce wastage in Coating Machines.

Education

Master of Science (MSc) in Embedded Systems and IC Design 2023–2025

Liverpool John Moores University, UK

SLTC Research University, Padukka

Master of Engineering (MEng) in Electronic and Electrical Engineering 2017–2021

University of West of England, UK

Completed degree with Merit (Second Class, Division 1).

Completed 60 ECTS credits and 120 university credits (BEng Level) with Distinction.

Technical Skills

Embedded Systems

Microcontroller Programming (Arduino, Raspberry Pi, NodeMCU), FPGA Programming (VHDL, Verilog), Programming Languages (Python, MATLAB, C, C++), RTOS, IoT, ESP32, ESP8266. I2C, SPI, UART (RS232), CAN, Bluetooth, WiFi and USB.

Protocols and Interfaces

EDA Tools

Xilinx Vivado, ModelSim and Quartus

Debugging Tools

JTAG, logic analyzers, and oscilloscopes

Hardware Design

PCB Design (Proteus, Altium), Simulation (LTspice), SOLIDWORKS

AI and Machine Learning

TensorFlow and PyTorch for AI/ML development.

Tech Stack

Python, C, JavaScript, AngularJS, ReactJS, NodeRed, SQL, Neo4J, REST API

Version Control Tools

Git, GitHub and Azure DevOps

Project Management Tools

Jira, Asana

Courses

Neo4J *Neo4j and LLM Fundamentals*

October 2024

Altium *Altium PCB Design Course*

June 2024

edunox *IoT E-degree - The Novice to Expert Program in IoT*

Oct 2022

Google *Project Initiation: Starting a Successful Project*

Sep 2022

Udemy *Electric Vehicle Technology*

Aug 2022

Google *Foundation of Project Management*

Jul 2022

University of Moratuwa (CODL) *Python Programming*

Aug 2022

University of Moratuwa (CODL) *Python for Beginners*

Jun 2022

Udemy *CMOS Digital Integrated Circuit Design*

Jun 2022

edunox *Machine Learning For Absolute Beginners*

Jun 2022

Udemy *I2C, SPI, UART (RS232), VGA in VHDL for FPGA interfacing*

May 2022

Udemy *PCB Design + PCB For Microcontroller Circuit + MultiLayer PCB*

May 2022

Memberships

Member of the Institution of Engineering and Technology (MIET) Membership No: 110097604

Projects

2024 MSc Project - Attention-Based CNN for Embedded ECG Signals Classification

Embedded-AI Model for diagnosing ECG Patterns.

Technologies: Embedded-AI, CNN, Python

Responsibilities: Developer

2020 MENG Project - Automated Home using IoT and Neural Networks

Control system for home automation using IoT and Neural Networks.

Technologies: Camera Security System, IoT (NodeMCU), Neural Network, PIC Programming

2020 GSM and IoT Based Weather Monitoring System

Device for weather parameter measurement and reporting via SMS and web platform.

Technologies: Arduino, NodeMCU, GSM

Responsibilities: Developer

2020 Data Acquisition of Accelerometer (ADXL345) using FPGA

System to acquire sensor values and display on VGA and PC.

Technologies: VHDL, FPGA, I2C Protocol

Responsibilities: Developer

2020 Mesh Network using NodeMCUs

Wireless Sensor Network (WSN) using NodeMCUs for data transmission.

Technologies: IoT, WSN, NodeMCU

Responsibilities: Developer

2020 MIMO System using MATLAB

Multiple Input Multiple Output (MIMO) system simulation.

Technologies: MATLAB

Responsibilities: Developer

2019 PLL System using MATLAB

Phase-Locked Loop (PLL) system implementation with FIR Filters.

Technologies: MATLAB

Responsibilities: Developer

2018 Cold End Coating

Solution for Cold End Coating machine to reduce wastage.

Technologies: Arduino, Photoelectric Proximity sensor

Responsibilities: Developer

2017 Obstacle Avoiding Robot

Robot capable of obstacle avoidance using Neural Networks.

Technologies: MATLAB, Arduino, AI

Responsibilities: Developer

2018 CPU using FPGA

8-bit CPU implementation using VHDL on Altera FPGA.

Technologies: VHDL, FPGA

Responsibilities: Developer

Languages

- English
- Sinhala

References

- **Dr. Mahima Weerasinghe**
Senior Lecturer
Faculty of Computing, Computer Science
Sri Lanka Institute of Information Technology (SLIIT)
Email: mahima.w@slit.lk
Phone: +94 70 462 2552
- **Maduka Ashan Perera**
Associate Tech Lead
OKLO Private Limited
Email: maduka.ashan@gmail.com
Phone: +94 71 643 5056