

THISARA VIKUM GUNAWARDANA

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EDUCATION

B.Sc. Honors in Engineering (CGPA - 3.95/4.00) *2021 - present*
Department of Electronic and Telecommunication Engineering, University of Moratuwa

GCE Advanced Level (3As, Z-score of 2.2467) *2018 - 2020*
Lyceum International School, Nugegoda
(Combined Mathematics, Physics, Chemistry)

WORK EXPERIENCE

MillenniumIT ESP, Infrastructure Intern *6 Dec 2024 - 5 Jun 2026*

- Configured servers and storage and also automated the deployment of virtual machines (VMs) at Colombo West International Terminal, ensuring efficiency in operations.
- Deployed Tanzu Kubernetes Grid along with NSX advanced load balancer at NDB Bank, for their internet banking applications.
- Assisted in deploying VMware Cloud Foundation (VCF) and Tanzu Kubernetes at Bank of Ceylon, for their BOC Flex App.

PROJECTS

Analysing and Enhancing Meshtastic Protocol for Disaster Management *2025-2026*
Final-year research project focused on enhancing LoRa-based Meshtastic mesh networks for disaster response. Designed topology-aware and hybrid routing mechanisms with SDN-assisted control, and integrated low-bitrate voice communication over the mesh to enable resilient, real-time human coordination in infrastructure-less and high-load emergency environments.
<https://github.com/Meshtastic-DM/>

Transformer Management Platform *Nov 2025*
Developed an AI-driven system that automates transformer fault detection from thermal images using YOLOv11-based computer vision. Implemented a full-stack platform with a React + TypeScript dashboard, Spring Boot REST backend, and Python inference service, enabling automated thermal analysis, digital maintenance record generation, and inspection history management.
<https://github.com/SamudraUduwaka/Transformer-maintenance-record-keeper-team-backslash>

RISC-V RV32I Pipelined CPU *Jun 2025*
Designed and implemented a 5-stage pipelined RISC-V RV32I CPU in Verilog HDL with hazard detection, data forwarding, and branch prediction. Simulated using ModelSim and synthesized on Quartus for functional verification.
<https://github.com/thisara-g/RV32i-Pipelined-CPU>

GNU Radio Transmitter and Receiver *Oct 2023*
Developed and implemented FSK and GFSK transmitters and receivers using GNU Radio and the

Nuand BladeRF SDR. The system successfully transmitted and received images, text, and real-time audio, incorporating forward error correction for improved reliability.

<https://github.com/SasikaA073/CDP-communication-system>

SKILLS

Programming Languages : Python, C/C++, Verilog, MATLAB

AI / Data : YOLO-based Detection, PyTorch, OpenCV

Design & Hardware : PCB Design (Altium), Enclosure Design (SolidWorks), Digital IC Design (Cadence, Quartus)

Systems & Tools : Linux, Git, Docker, VMware, MATLAB, GNU Radio

Languages : English(bilingual), Sinhala(native), German(A2)

ACHIEVEMENTS AND AWARDS

MillenniumIT ESP Bravo Award

Apr 2025

Recognized for outstanding contributions and positive impact within the organization as part of the April 2025 Bravo Awards ceremony.

1st runner-up : IEEE Chips Challenge 2024

Organized by the IEEE Sri Lanka Section.

CERTIFICATIONS

Hardware Description Languages for FPGA Design, University of Colorado Boulder

[View Certification](#)

Introduction to FPGA Design for Embedded Systems, University of Colorado Boulder

[View Certification](#)

EXTRA-CURRICULAR ACTIVITIES

Basketball - University of Moratuwa

2022 - 2023

Athletics - Lyceum International School

2015 - 2018

Swimming - Lyceum International School

2015 - 2018

Player - Football Team of Alethea International School

2012 - 2015

Swimming - Alethea International School

2008 - 2015

REFERENCES

Prof. (Mrs.) Dileeka Dias

B.Sc. Eng. Hons. (Moratuwa), M.S. (Calif.), Ph.D. (Calif.), MIE(SL), C.Eng., MIEEE

Professor, Department of Electronic and Telecommunication Engineering

University of Moratuwa, Sri Lanka

Email: dileeka@uom.lk

Dr. Samiru Gayan

B.Sc. Eng. Hons. (Moratuwa), M.Phil. (Moratuwa), Ph.D. (Melbourne), MIEEE

Senior Lecturer, Department of Electronic and Telecommunication Engineering

University of Moratuwa, Sri Lanka

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