Pasindu Dodampegama

📍 No.59, Hospital Road, Bakamuna   ✉ dodampegamapd.22@uom.lk   📞 +94 71 750 9804

in linkedin.com/in/pasindu-dodampegama   ⌗ github.com/pasindudarshana

Education

University of Moratuwa	*Moratuwa, Sri Lanka*
B.Sc. Engineering (Hons.) in Electronic and Telecommunication Engineering	*March 2023 – Present*

- GPA: 3.84/4.00 ↗
- **Coursework:** Image Processing and Machine Vision, Pattern Recognition, Modular Software Development, Circuits and Systems Design, Digital Signal Processing, Communication Systems, Control Systems, Robotics, Embedded Systems, Business Economics and Financial Accounting

Dharmaraja College	*Kandy, Sri Lanka*
GCE Ordinary Level - 9 A's	*Jan 2013 – Sep 2022*
GCE Advanced Level - Physical Science Stream; 3 A's; Z-Score 2.3921	

- **District Rank** - 14th; **Island Rank** - 266th out of 39,225 students
- **Coursework:** Combined Mathematics, Physics, Chemistry

Achievements

Dean's List	*2022, 2023*
Semesters - 1,2,4 (Upto Semester 04)	

**Finalist	IEEE IES Generative AI Challenge 2025**	*2025*
By IEEE Industrial Electronics Society for cktFormer: Transformer-Based Approach for Automated Analog Circuit Design	

**Finalist	Chemistry Olympiad Sri Lanka (COSL)**	*2022* ↗
Awarded by Institute of Chemistry Ceylon	

**Bronze Medalist	Sri Lankan Physics Olympiad Competition (SLPhO)**	*2022* ↗
Awarded by Institute of Physics, Sri Lanka	

**Bronze Medalist	Sri Lankan Mathematical Olympiad (SLMO)**	*2019* ↗
Awarded by Sri Lanka Olympiad Mathematics Foundation (SLOMF)	

**Merit	Sri Lankan Astronomy and Astophysics Olympiad (SLAAO)**	*2019* ↗
Awarded by Institute of Physics, Sri Lanka	

Publications

cktFormer: Transformer-Based Automated Analog Circuit Design
Group Project

- Initially accepted to IECON 2025 under the track "The Responsible Practice of Generative Artificial Intelligence for Industrial Applications and Systems."
- Top 3 Finalists for the inaugural Vinoj Jayasundara Memorial Prize.

Projects

cktFormer: Transformer-Based Automated Analog Circuit Design ↗
Group Project

- Designed a dual-transformer architecture for analog circuit synthesis, achieving **89.6% validity** and outperforming cktGNN and AnalogGenie.
- Trained the model on the AnalogGenie dataset (3,351 circuits) using PyTorch; optimized for component and connection prediction (**F1-score: 0.856**).
- Tools Used: PyTorch

SpectraNet: Deep Learning Classifier for Deepfake Detection ↗
Group Project

- Designed and submitted the project for the IEEE Signal Processing Cup 2025.
- Developed a deepfake detection model using FFT-augmented EfficientNet-B6; achieved **91.02% accuracy** and **0.9104 AUC** on a dataset combining Celeb-DF, DFDC, and FaceForensics++ datasets.
- Tools Used: PyTorch

Autonomous Mobile Robot (AMR) – Motor Control System ↗
Group Project - Ongoing

- Designed a motor control system for an AMR using an ATmega32U4-based PCB communicating via RS485 with a mini PC running Ubuntu.
- Implemented smooth control of the AMR during mapping phase.
- Tools Used: C++, Microchip Studio, Ubuntu

Primus - Autonomous Navigation Robot ↗
Group Project

- Designed and programmed a line-following robot equipped with IR sensor arrays, TCS3472 color sensor, and motor encoders for navigation.
- Implemented PID control for smooth line tracking and precise 90° turns using encoder feedback.
- Tools Used: Arduino IDE, ESP32, C++, IR Sensors, Notor Encoders

Leadership and Volunteering Experience

General Knowledge Quiz Club - Dharmaraja College   *2019 – 2021*
Assistant President

- **Event Organization:** Led and assisted in organizing the annual quiz competition – RQ

Project Demonstrator - Sri Lanka Robotics Challenge 2024   *March 2024*

- Delivered a technical demonstration of a senior-designed fully analog line-following robot.

Sasnaka Sansada

- Volunteering at the "Ganitha Sawiya" O/L mathematics seminar series organized by the Sasnaka Sansada foundation.

Skills Summary

Programming Languages: C++, C, Python, Java, AVR C

Software and Tools: PCB Designing (Altium), Enclousure Design (Solidworks), Electronic Simulation (LT-Spice), Microchip Studio, MATLAB, PyTorch, Node-RED, MQTT

Soft Skills: Project Management, Teamwork, Leadership, Presentation Skills

Research Interests

Generative Artificial Intelligence, Pattern Recognition and Computer Vision, Machine Learning, Edge Computing, Augmented Reality and Virtual Reality, 3D Reconstruction

References

Dr. Chamira U. S. Edussooriya
B.Sc.Eng. (Moratuwa), M.A.Sc., Ph.D. (UVic), MIEEE
Senior Lecturer
Department of Electronic and Telecommunication Engineering
University of Moratuwa, Sri Lanka
Email: chamira@uom.lk
Tel: +94 711 656562

Dr. Sampath K. Perera
B.Sc.Eng. (Moratuwa, Sri Lanka), M.E.Sc. (Western, Canada), Ph.D. (RUB, Germany), MIEEE
Senior Lecturer
Department of Electronic and Telecommunication Engineering
Faculty of Engineering, University of Moratuwa, Moratuwa, Sri Lanka
Email: sampathk@uom.lk
Mobile: +94 (0)705 726264