

Mohamed Mysan Mohamed Muftee

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Summary

Electronics and Telecommunication Engineering undergraduate with a strong passion for developing systems at the intersection of biosignal processing and wearable technology. Ranked in the top 1% of university entrants and the top 2% of my cohort at university, I have built a solid foundation in Physics, Signal Processing, and Embedded Systems. Through my research at the Augmented Human Lab, I have cultivated a deep interest in leveraging my technical expertise to design impactful wearable technologies and contribute to advancing research in Human-Computer Interaction.

Experience

Research Intern - Augmented Human Lab, National University of Singapore

Dec 2025 - June 2026

- Supervised by Prof. Suranga Nanayakkara
- Building an end-to-end hardware platform for gut-computer interface. Work revolves around research into existing hardware platforms, circuit development, PCB design, Firmware development, 3D design, Impedance matching design, and form factor.
- First author paper publication at UIST '26
- Second author poster publication at CHI '26

Publications

Interrupting Autopilot: Evaluating Sensory Interventions for Momentary Self-Regulation

CHI '26 Poster

- Explores vibration, thermal, and audio feedback via wearables to disrupt autopilot behaviors; findings highlight trade-offs across modalities and the potential of physical modulation as a complementary self-regulation tool.

Second Author

DOI: [10.1145/3772363.3798497](https://doi.org/10.1145/3772363.3798497) 

OpenGut: An Open-Source Platform for Gut-Computer Interaction Research

UIST '26 Full Paper & Demo

- Open-source platform contribution for Human-Computer Interaction, enabling research in Gut-Computer Interaction.

First Author

Education

University Of Moratuwa, Sri Lanka (Undergraduate)

Feb 2023 - May 2027

- B.Sc. Engineering (Hons.) in Electronic and Telecommunication Engineering;
CGPA: 3.94/4.00
- *Minor in Mathematics:* Graph Theory, Numerical Methods, Linear Algebra, Calculus and Differential Equations

Wesley College, Colombo (G.C.E A/L)

Jan 2019 - Mar 2022

- G.C.E. Advanced Level 2021(Feb 2022) - Physical Science Stream;
4As, Z-score of 2.7140, Island 16th, Colombo District 6th

External Certifications, Online

- *nRF Connect SDK Fundamentals course (Nordic)* : 2026
- *Tiny Machine Learning Program (HarvardX, edX)* : 2026
- *CS50's Introduction to AI with Python (HarvardX, edX)*: 2025
- *Machine Learning Specialization (DeepLearning.AI)* : 2024
- *Artificial Intelligence in Embedded Systems (UoM)* : 2024

Awards — University

Dean's List | University of Moratuwa (2023 - Present)

Semesters 1, 2, 3, 4, 5

Champions | SLIoT 2025

Innovation competition for IoT product development organized by UoM, IESL and powered by SLT Mobitel.

Champions | SPARK 2025

Innovation and Start-Up competition for organized by the E-Club of the University of Moratuwa with a price pool of Rs. 1,000,000/=

Champions | Sri Lanka Inter-University Make-A-Thon for 3D Printed Assistive Medical Devices 2025

Make-A-Thon organized by the University of Kelaniya, ADB and FabLab Shingawa

1st Runner-Up | Circulatory Challenge 2025

Innovation competition for circulatory product development

2nd Runner-Up | Future Innovators Challenge 2025

Innovation competition for electronic product development

Most Popular Innovation | Future Innovators Challenge 2025

Innovation competition for electronic product development

2nd Runner-Up | VRCade 2.0 (2024)

Virtual Reality Competition Organized by IAS at the University of Moratuwa

1st Runner-Up | IESL Start-Up Spark Competition 2024

Start-Up competition for sustainable product development

Awards — University Sports

Sri Lanka University Sports Association Colors 2024, 2025 | Cricket

Awarded for a select few best performing players at the Inter-University Games

Moratuwa University Colors 2023, 2024, 2025 | Cricket

Awarded for the performance in the Inter-University Games

Moratuwa University Special Award: Best Batsman 2025 | Cricket

Awarded for the best batsman in the interuniversity tournament

2nd Runner-Up | Sri Lanka University Games 2023 : Cricket

SLUG is the premier Inter-University Games for local University Students in Sri Lanka

Awards — School

Hill Medal | Wesley College (2022)

Awarded to the student who obtained the highest Aggregate for University Entrance.

Active Participation Award | Wesley College (2022)

Awarded for active participation in extra-curricular activities and gaining university entrance.

L. E. Fernando Award | Wesley College (2022)

Awarded to the most outstanding student.

Shelton Weerasinghe Prize | Wesley College (2022)

Awarded for the best results at G.C.E. A/L (Engineering stream).

Prof. Razeen Sappideen and Prof. Caroline Prize | Wesley College (2022)

Awarded to the best university entrant in Engineering.

Runners-Up | Dr. Vijitha Weerasinghe Memorial Tournament 2021

*Emerged as Runners-Up at the All-Island Interschool Debating Championship organized by Royal College. **Best***

Delegate Award | RichMUN 2019

Awarded for the exhibition of admirable depth of knowledge and outstanding diplomatic skills by representing Germany in the United Nations Human Rights Council at RichMUN.

Higher Commendation Award | Sri Lanka Model United Nations Conference 2019

Awarded for the exhibition of admirable depth of knowledge and outstanding diplomatic skills by representing Belgium in the Commission on the Status of Women at SLMUN.

Projects

PlantCLEF 2025: Multi-label Plant Species Prediction

2025

- Participated in the Kaggle PlantCLEF 2025 challenge (CVPR - FGCV), developing **AI models for multi-label classification** of quadrat vegetation images. Tackled domain shift between single-label training data and multi-label test sets by applying computer vision and machine learning techniques to predict species presence and abundance. Built on top of DINOv3.

AI-Driven Waste Classification

2025

- Designed and implemented a **custom convolutional neural network** for multi-class waste image classification using the RealWaste dataset. Achieved 72% test accuracy with Adam optimization, and benchmarked performance against state-of-the-art transfer learning models (ResNet50, DenseNet121), both reaching 81%. Explored activation functions, optimizer trade-offs, and momentum effects, strengthening systems-level understanding of deep learning architectures for real-world environmental applications.

BSFix - Automated IoT system for BSF Farming.

2025

- Developed an IoT-based automation system integrating **computer vision algorithms** to detect life stages of Black Soldier Flies and categorize growth and compost levels using IR imaging. Enabled smart feeding, growth tracking, and environmental control via sensor-driven ESP32 modules, Raspberry Pi 4, and a mobile dashboard.
- Champions of SLIoT University Category 2025.

A Reconfigurable Gripper for Robotic Autonomous Depalletizing in Supermarket Logistics

Jan 2025 - Present

- Designed a robotic end effector for depalletizing in warehouse logistics, integrating pneumatic actuation and Time-of-Flight sensors for adaptive gripping. Developed rack-and-pinion-driven fork with microcontroller-based control for real-time box handling.

EcoSync - a smart A/C regulator

Mar - Aug 2024

- EcoSync is a smart A/C regulator that integrates into operating split-type air conditioners to automate temperature control based on user presence in hotel rooms.
- 1st Runner-Up at IESL Techno-Spark Startup Challenge and 1st Runner-Up at INSEE Circulatory Challenge 2025.

Analog Solar Tracker

Jun - Dec 2024

- Designed a single-axis solar tracker using purely analog components, implementing a PID controller with op-amps and PWM motor control. Developed a dual-layer PCB in Altium and an enclosure designed in SolidWorks as part of learning core analog electronics and system integration.

Non-technical Projects and Community Service

Secretary General - Sri Lanka Rotaract Model United Nations Conference Nov 2023 – Apr 2024

Led and organized a national-level Model UN conference for university and school students across Sri Lanka, serving as chairperson of the entire event.

Camp Commander - Kids Leadership Conference (Sri Lanka Unites)

Feb 2023

Led a 3-day residential leadership camp for children aged 9–16 from diverse socioeconomic and religious backgrounds across Sri Lanka. Delivered sessions themed around leadership, peacebuilding, and reconciliation, fostering mutual understanding and empathy among participants.

Volunteer - Sri Lanka Dream Team Tour Season 6 (Sri Lanka Unites)

May 2022

Selected as the sole volunteer from the Colombo District for a 30-day nationwide tour across all districts in Sri Lanka. Conducted school-based leadership programs and evening town hall sessions promoting peace and reconciliation. Delivered sessions in all three languages, engaging deeply with local communities and supporting students through mentorship and guidance.

Skills

- **Programming Languages:** Python, C++, C, MatLab
- **Machine Learning Frameworks:** TensorFlow, PyTorch
- **Tools:** Electronic Simulation (LTSpice), Enclosure Designing (Solidworks), PCB Design (Altium)
- **Soft Skills:** Public Speaking, Leadership, Teamwork, Project Management
- **Languages:** English, Sinhala, Tamil

Clubs and Organization

- **Cricket Team** - Vice-captain for the 2026 Cricket Season.
- **E-Club (Electronic Club)** – Active member involved in both technical and social initiatives within the department
- **IEEE Student Branch** – Engaged in technical workshops and student-led initiatives
- **IEEE Signal Processing Society** – Member with a focus on research exposure and academic growth
- **Sri Lanka Unites / Global Unites** – Youth volunteer promoting peacebuilding and reconciliation at national and international levels

References

Dr. Ranga Rodrigo

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