

H.M. Sandun Induwara Herath

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in [LinkedIn](#) [GitHub](#)

Profile

Passionate third year biomedical engineering undergraduate who is interested in biomedical signal processing, machine learning, modelling of physiological systems, neuroscience and love their applications to make an positive impact on the world.

Education

- **University of Moratuwa** **Moratuwa, Sri Lanka**
BSc. Engineering (Hons.) in Biomedical Engineering. 2022 - Ongoing
 - Department of Electronic and Telecommunication Engineering
 - CGPA : 3.83/4.00 (Up to Semester 4) [📄](#)
 - Dean's List: Semester 1,2Relevant Courses: Signals and Systems, Electronics, Control Systems, Physiological Modelling, Linear Algebra, DSA.
- **Central College Anuradhapura** **Anuradhapura, Sri Lanka**
GCE Advanced Level - Physical Science Stream 2012 -2020
 - Zscore: 2.6277 Ranked 86th in the country, 1st in the districtGCE Ordinary Level 9As

Projects

- **Biosense-AI Deep Learning Based ECG Signal Classifier and Interpreter** [🔗](#) [📺](#) 2023
 - Achieving amplified and filtered ECG signal with custom designed PCB only using analog components.
 - SPO2 and heart sound measuring through sensors and processes using SBC inside to calculate heart and still working on multi-modal neural network.
 - Predicting and interpretation of possible health issues related to achieved waveforms with SBC and displaying on the webapp.
- **Restaurant Robot** [🔗](#) [📺](#) 2024
 - Implementing a vision-based navigation system using Kinectv2 camera with ROS integration for accurate movement.
 - Use Gazebo for simulation and comprehensive documentation following the Cambridge EDC model to track design iterations.
 - Designing a stabilization tray mechanism to securely transport food items, minimizing spillage with proper calculations.
- **Implementing a Fall Detection Device for Elderly People** [🔗](#) 2023
 - Develop algorithm to detect falls of adult individuals using MPU6050 gyroscope by distinguishing from other activities.
 - Configured the system to send SMS alerts to a given mobile number after detecting falls through an MQTT server.
 - Utilized Altium and SOLIDWORKS for the design and implementation of the prototype.
- **Saline Flow Controller** [🔗](#) 2023
BM2210- Biomedical Device Design
 - Design for the saline flow controller for maintaining a given constant flow with customizable functions.
 - Maintaining proper documentation with the intension of applying a patent and FDA approval.
 - Design of PCB and enclosure for the prototype.
- **Phoenix Cube Satellite Project** 2023 - Ongoing
 - Member of the power subsystem which design the power subsystem of the satellite.

Awards and Scholarships

- **Finalist — Brainstrom** 2024
Healthcare competition organized by the IEEE EMBS in University of Moratuwa.
- **Semifinalist — Codesprint** 2024
*Hackathon organized by IEEE branch of IIT, for **real time sign language translator**.*
- **2nd Runners Up— Mecha** 2023
Organized by the Technical Society of Faculty of Medicine in University of Colombo.
- **Mahapola Higher Educational Scholarship** 2021
For the performance in GCE AL examination.
- **Dialog Merit Scholarship** 2021
For the performance in GCE AL examination.

Online Courses & Certificates

- Computational Neuroscience (June. 2024) - [Coursera](#)
- Digital Signal Processing 1: Basic Concepts and Algorithms - [EPFL](#)
- Advanced Learning Algorithms - [DeepLearning.AI](#), [Coursera](#)
- Introduction to FPGA Design for Embedded Systems - [Coursera](#)
- Improving Deep Neural Networks (Jan. 2023) - [DeepLearning.AI](#), [Coursera](#)

Skills

- **Programming Languages/Tools:** Python, C++, MatLab, \LaTeX
- **Familiarized Software:**
 - ROS, Altium Designer, SOLIDWORKS, MatLab Simulink, Quartus Prime, Vivado, Multisim, LTSpice
- **Soft Skills:** Problem Solving, Project Management, Public Speaking

Leadership & Volunteering

IEEE Engineering in Medicine and Biology Society - University of Moratuwa

Committee Member

Gavel Club - University of Moratuwa

Member

References

Dr. Ranga Rodrigo

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