Weerasinghage Don Imasha Nethmal

Biomedical Engineering Undergraduate, University of Moratuwa
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Education

University of Moratuwa, Sri Lanka May 2022- present
B.Sc. Engineering(Hons) in Biomedical Engineering *GPA: 3.81/4.0*

Ananda National College, Puttalam 2012 - 2020
GCE Advanced Level (Mathematics, Physics, Chemistry) *Ranked 225 out of 20000 students / z-score of 2.4271*

Area of interest:
Digital Signal Processing, Neuroscience, Machine learning, Modelling of Physiological Systems, Analog IC design

Projects

Analog computer design | *Analog circuit designing, Enclosure designig* 2023
- Analog circuits that can perform addition/subtraction and four quadrant multiplication using op-amps.
- Altium and Solidworks designs for implementation of the prototype.

Implementing a model of fall detection device, | *2nd semester project in university* 2023
- Team project to build a functional device using Altium and Solidworks software
- Develop an algorithm to detect falls of adult individuals using MPU6050 gyroscope by analyzing motions
- Send SMS to a given mobile number after detecting falls through MQTT server.

RFID handheld reader | *HF antenna, circuit designing, Enclosure designig* june 2024
- Developed and tested a RFID system that can identify tags and update the real-time database.
- Custom PCBs and enclosure designs to adapt to requirements.

Communication device for individuals with paralysis 2024
- Team project to develop a system that integrates EMG signals and ML
- Secured a spot in 10 semi-finalists among 50+ participants from universities all across the country in Brainstorm-2024 competition

UART Transceiver Implementation in FPGA 2024
- Used Verilog hardware description language (HDL) to design.
- Physically implemented using DE0 nano board.

Open-source analog Ic design basics June 2024- present
- This includes the preparation for the IEEE UNIC-CASS competition.
- Final proposal to design low-power SAR ADC using open-source PDKs.
- CMOS inverter CMOS ota

Skills

Programming Languages: Python, C++, MATLAB

Softwares: Altium Designer, Solidworks, Quartus Prime, Multisim and Magic VLSI

Libraries: OpenCV, NumPy, Matplotlib

Soft Skills: Project management, Problem solving, Public speaking

Awards and scholarships

Semi-finalist | **Brainstorm 2024**: Healthcare Innovation Competition organized by the IEEE EMBS in University of Moratuwa

Dean's List (semester 1, semester 2)

Mahapola Merit Scholarship: Granted by the Government of Sri Lanka based on GCE A/L performance

Volunteer Experience

Brainstorm 2024 - Sri Lanka's Premier Healthcare Innovation Competition Sept. 2023 -Present
Memeber-financial Committee: Involved in the fundraising and public marketing centered within the industry

MEDx 2023/24 - Medical Technology ideathon Aug. 2023 -Present
Co-chair

- Engaging with industry experts.
- Team handling (40+ teams).
- Event management (3 online workshops, Grand finale

IEEE Engineering in Medicine and Biology Society - University of Moratuwa 2023 – Present
Active member

Teaching volunteer 2023

- Soyuru Sathkara Project, University of Moratuwa

References

Dr. Chamira U. S. Edussooriya
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