Risini Dinara Kumarasinghe

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EDUCATION

University of Moratuwa	Mar 2022 – Present
B.Sc. Engineering (Hons.) in Biomedical Engineering; GPA: 3.86/4.0	Sri Lanka
Devi Balika Vidyalaya	2018 – 2020
GCE Advanced Level (Combined Mathematics, Physics, Chemistry, General English)	
4As / 73rd in country / z-score of 2.65	
Samudradevi Balika Vidyalaya	2007 – 2017
GCE Ordinary Level 9As / 2nd in country	

SPECIAL ACHIEVEMENTS

All island 2nd place in GCE (Ordinary level)	2017
Out of approximately 300,000 candidates.	
Gold medal For the best performance at GCE O/L examination	2017
Awarded by Samudradevi Balika Vidyalaya, Sri Lanka	
Gold medal For the best performance in Physical Science Stream at GCE A/L examination	2020
Awarded by Devi Balika Vidyalaya, Colombo, Sri Lanka	

PROJECTS

Human Height Measuring Under Low Ultrasound Reflection of Scalp Hair ↗   April 2023–Present

- Involved as a team member for implementation of algorithm to classify data clusters corresponding to reflections from hair.
- Specifically designed the outer enclosure to improve detection accuracy even under conditions of extremely low ultrasound reflection

Implementing the Medibox an IOT based Embedded System ↗   April 2024

- ESP32 micro-controller programming,Designing Node-RED dashboard for remote monitoring.
- MQTT protocol for IoT communication

Zero G Dynamic Body-Weight Support System Using a Motorized Unloader ↗   Feb 2024- present

- Design the wearable part of the device focusing on comfort of the patient
- Designed a moldable enclosure and its mold up to industry standards

Analog ECG monitor ↗   July 2023 – November 2023

- Fully analog circuitry for extracting ECG waveform obtained by wet electrodes.
- Performed signal processing techniques to extract Electrocardiogram (ECG) waveforms by filtering out undesired frequencies and mitigating noise interference.

Modelling and Analysis of Physiological Systems ↗   Feb 2024- May 2024

- Analysis of cardiac physiology.
- Branched Cylinders: dendritic tree approximation.
- Hodgkin-Huxley equation.
- Investigating compartmental systems.
- Simulation of respiratory mechanism.

Vein Finder 🔗
July 2023–December 2023
- A medical device that helps healthcare professionals locate veins accurately for various medical procedures such as venipuncture, IV insertions, and blood draws

Design of Linear Power Supply 🔗
March 2024
- Can used even if there is a continuous line variation.
- Current limitation circuit is also there.

UART Transceiver Implementation in FPGA 🔗
April 2024
- Used Verilog hardware description language (HDL) to Design

Enclosure design for PLC 🔗
May 2024
- A moldable enclosure for a PLC was designed along with the mold using solidworks

CERTIFICATIONS

CIMA
June 2021
Certificate in Business Accounting(Certificate level)
Sri Lanka

Deep-Learning Specialization
June 2024
Certificate in Neural Networks and Deep Learning
DeepLearning.AI

Machine-Learning Specialization
June 2024
Certificate in Supervised Machine Learning: Regression and Classification
DeepLearning.AI

Embedded Machine Learning for Edge Computing
June 2024
In Progress
SkillSurf.lk

WORK EXPERIENCE

Solidworks Designer
May 2023 – Present
MeasureUP,World Bank funded AHEAD Project
University Of Moratuwa
- Worked for designing the 3D Printed enclosures to industry standards

Intern
Jan 2022 – March 2022
Dialog Axiata PLC
Sri Lanka
- Worked in updating the backend system in the project of converting CDMA to VoLTE

GRANTS AND SCHOLARSHIPS

Dean's List (Semester 1, Semester 2, Semester 4)
Recognition awarded to students who achieve a semester grade point average (SGPA) of 3.8 or above, acknowledging academic excellence and achievement.

Mahapola Higher Education (Merit) Scholarship
Oct 2020
For outstanding performance in GCE A/L Examination. Ranked 73 out of 34389 students

Grant from AHEAD Project
Aug 2023
Recipient of a grant from the AHEAD(ACCELERATING HIGHER EDUCATION EXPANSION AND DEVELOPMENT) Project, a World Bank funded program, to develop the MeasureUP height measuring device project into a marketable product.

INTERNATIONAL COMPETITIONS

Internet+ Innovation and Entrepreneurship Competition
2023
- Participated and led a team in the 9th China International College Students' 'Internet+' Innovation and Entrepreneurship Competition

VOLUNTEERING AND LEADERSHIP EXPERIENCE

Prefect
2010 – 2012
Samudradevi Balika Vidyalaya

IEEE EMBS chapter in University of Moratuwa
2023 Mar- Present

SKILLS SUMMARY

Languages: English (Professional proficiency), Sinhala (Native proficiency)
Programming: Python , MATLAB, C++
Document Creation: Microsoft Office Suite, LaTex
Software:

- PCB designing - Altium Designer, EasyEDA

- Enclosure designing - Solidworks

- Electronic circuit design and simulation - Proteus, LTspice, Wokwi

- FPGA programming - Quartus Prime

- Arduino programming

- Graphic Designing - Canva

REFERENCES

Prof. Nuwan Dayananda
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Faculty of Engineering
University of Moratuwa, Sri Lanka
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Dr. Rukshani Liyanaarachchi, PhD
Senior Lecturer
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