ISURU RAJAPAKSHE

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LinkedIn GitHub Website

SKILLS

- Circuit design(Multisim, Ultiboard, OrCAD, Proteus)
- Signal Processing(MATLAB, Python)
- Embedded systems(Zephyr RTOS, Arduino, C)
- Machine Learning(Pytorch, MATLAB)
- Robotics(Kinematics, PID, Trajectory planning)
- Web development(React, NodeJS, CSS/HTML/Javascript)

EXPERIENCE

Research Assistant | *Intellimed Research Lab, CSULA* Dec. 2023 - Current

- Quantifying changes in EEG readings in patients before and after undergoing repetitive Transcranial Magnetic Stimulation (rTMS) therapy for Major Depressive Disorder (MDD).
- Currently using phase lag index and coherence between EEG electrodes to solidify an objective biomarker for MDD.

Instructional Student Assistant | *BOOST Program, CSULA* Jun. 2024 - Aug. 2024

- Mentored a team of five undergraduates in an engineering project with a deadline of 3 months for a community client.
- Developed a device that utilized 3D coordinates of hand positions to generate and play music.

Software engineer | *Insync Information Technologies, Colombo, Sri Lanka* Jul. 2021 - Jul. 2022

- Lead full-stack development engineer in a team developing a network automation tool.
- Used MongoDB-Express-React-Node JS as our framework and developed a running prototype in 7 months.
- Pitched our product to multiple telecommunication companies, leading to a collaboration with Dialog Axiata PLC.

Electronic engineer intern | *Lanka Electronics, Minuwangoda, Sri Lanka* June. 2019 - Dec. 2019

- Conducted preliminary research on the trajectory design of a 6-degree-of-freedom robotic arm.
- Appended welding capabilities to the arms manipulation software package and reached spacial accuracy of 3mm.

PROJECTS

Coffee Shop | Mar. 2024 - May. 2024

- Developed an automated seating system using nRF52 development kit that uses body heat to capture available and unavailable seats to direct customers arriving at a coffee shop.

LipRead | Nov. 2023 - Dec. 2023

- Deviced a pipeline using Pytorch to predict words spoken in a soundless video using Gated Recurrent Units. Achieved a 66% accuracy on the selected dataset.

Non-Intrusive Real-Time Power Monitor | Feb. 2020 - Jul. 2021

- Contributed to a team project developing a system for non-intrusive real-time power monitoring of a household by developing the website using the Firebase platform and designing the power meter circuits using OrCAD.
- Achieved a prediction accuracy of 90% for electric kettle and 95.5% for microwave.

Automated Shade Net for Orchid Plantations | Jan. 2019 - May 2019

- Designed initial circuitry(using Proteus) and enclosure(using Solidworks) for an automated system that controls soil water concentration and ambient humidity in semi-enclosed orchid plantations.

EDUCATION

Master of Science Electrical Engineering Aug. 2023 - May. 2025

Electrical Engineering, California State University - Los Angeles (CSULA) CGPA - 4.0/4.0

Bachelor of Science of Engineering (Honours) Oct. 2016 - Jun. 2021

Electronic and Telecommunication Engineering, University of Moratuwa, Sri Lanka (UoM) CGPA - 3.57/4.2

LEADERSHIP AND AWARDS

Biomedical Engineering Society, CSULA | *Vice President* 2024 - Present

- Organized club outreach events, coordinated funding for conferences, and mentored at workshops.

IEEE IAS Student Branch, University of Moratuwa | *Treasurer* 2019 - 2020

- Organized networking workshops, printed circuit board workshops, and robotics workshops.

2024 Spring CSU Biotech Student Travel Grant Program | *CSIBIOTECH* Jul. 2024

- I was awarded a travel grant for my research on rTMS, funding travel to the EMBC conference.

Dean's List Placements - Semesters 1, 6, 7, 8 | *University of Moratuwa* 2016 - 2021