

RASHEN FERNANDO

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SKILLS

Languages	Python, C, Assembly, Matlab
Libraries	Pytorch, TensorFlow, Keras, Librosa, Numpy
Software	Proteus, KiKad, AutoCAD, MPLABX Arduino, Adobe, Blender, FL studio, Verilog, FFmpeg
Other	PCB design, Soldering, Rapid prototyping, 3D modeling.
Soft Skills	Teamwork, Communication, Problem Solving, Retentive

EDUCATION

BSc(Hons) Electrical and Electronic Engineering, University of Peradeniya 2017 - Present
GPA: 3.64

PROJECTS

Blind Source Separation Pytorch(Python), Matlab, Machine learning, Signal Processing [Read more](#)

- Analyzed temporal and frequency domain features of multi instrument audio signals to visualize timbre information of vocal signals.
- Applied algorithms (PCA, ICA, NMF) and implemented neural network (Conv - TASnet) using pytorch to do blind source separation.

Obstacle Avoiding Robot Assembly, micro-controller, interrupts, ADC, sensors, timer [GitHub](#)

- micro-controller is fully coded using assembly language to build an efficient robot by getting rid of coding redundancies.
- The code is simulated using Proteus software.
- Hardware model is developed and deployed.

Frequency Reactive LED lights esp32, Arduino, C, Matlab, PCB design [GitHub](#)

- Captures audio from a microphone and the signal is sent through an amplifier and then to the esp32 micro controller.
- Then using Geortzal's algorithm, FFT and STFT real time frequency is determined.
- According to obtained frequencies and energy level of the signal LED light strip is controlled.
- PCB was designed using KIKAD software and the 3D design was developed using SolidWorks software.

Video Encoding Algorithm DCT, Quantization, Motion vector estimation, encoding, matlab [GitHub](#)

Mini Quadcopter esp32, matlab, sensor fusion, Matlab, PCB design [GitHub](#)

Stock Market Prediction Neural networks, Algorithms, Matlab [GitHub](#)

Parity Bit Correction C [GitHub](#)

Digital Spirometer Arduino [GitHub](#)

CERTIFICATIONS

- Deep Learning by deeplearning.ai.
- Ariel Robotics by University Of Pennsylvania.
- 3D Models For Virtual Reality by University of London
- The Art Of Music Production by Berklee College Of Music

EXTRA-CURRICULAR ACTIVITIES

- Synopsis "Inno Champ" runner up
- Hackathon, IEEEExtreme participants
- Toastmaster - Pathways Dynamic Leadership Level 3 completed.
- Institute of Western Music And Speech Theory-(Grade 1-5).
- Institute of Western Music And Speech Practical-(Grade 1-5)
- Singer/Songwriter/Producer/Guitarist/Social media influencer
- Basketball university representative

INTERESTS

- Machine Learning / Data Science
- Signal Processing
- Robotics and Automation Systems
- Embedded Systems
- Image Processing
- Mathematics
- Music

WORK HISTORY

Intern SLINTEC

Nov 2019 - Jan 2020

REFERENCES

Dr.Janaka Wijayakulasooriya Senior Lecturer at Department Of Electrical and Electronic Engineering, UOP

[Contact Dr.Janaka Wijayakulasooriya](#)

Dr.Pantaleon Perrera Senior Lecturer at Department Of Engineering Mathematics ,UOP

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