

Manjitha Kularatne

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Personal Profile

Final year undergraduate in Biomedical engineering. Passionate in Data Science, Internet of things, Bio signal Processing, Image Processing with strong technical, business, and interpersonal skills for working in a team and successfully completing a project. Strongly believe on taking experience on any field of studies.

Education

University of Moratuwa

Sri Lanka

B.Sc. Biomedical Engineering

Oct 2018 - Current

- Following entrepreneurship minor program
- Former department representative
- Maintaining CGPA 3.565 (out of 4.2)
- **Optional/ Elective Courses:** Internet of Things Design and Competition, Robotic Design Competition, Electronic Design Realization, Embedded Systems Engineering, Fundamentals of Image Processing and Machine Vision, Machine Vision, Medical Image Processing, Bio signal processing

St. Peter's College

Colombo 04

Primary and Secondary education

Jan 2004 - Aug 2017

- G.C.E advanced level 3 As Z score : 2.083 | Island Rank : 319 | District rank: 98
- Member of Maths and Science Society

MOOCs

Coursera | Udemy

Online learning

2020 - Current

- Introduction to Data Analytical | IBM
- Python for Everybody Specialization | University of Michigan
- Machine Learning | Stanford University
- Beginning C++ Programming | Udemy

Work Experience

Effective Solutions (Pvt) Ltd

Sri Lanka

Trainee Research and Development Biomedical Engineer

Sept 2020 - Aug 2021

- Design and develop architecture to configure wifi settings in the Jendo medical device with the Jendo App
- Compare and analysis signal processing output of jendo device between matlab and java environment
- Implement Hampel Outlier detection and filter in java server to remove outliers
- Design Wavelet filter (remove noise) in python and deployed as a python server
- Design an employee management system
- Demonstrate Device for some external parties and weekly conduct data collection sessions
- **Technical Skills:** Python, Java, Matlab, Flutter, Arduino, React Js, Node Js, Mongo DB, SQL, Git.
- **Soft Skills:** Teamwork, Time Management, Communication, Presentation skills, Leadership

Notable Projects

Investigating a relationship between diabetes and ocular features

Sri Lanka

University of Moratuwa

Oct 2022 - Current

- Analysing the fundus images of retina and DSLR images of sclera to investigate whether blood vessels and other features of eye have relationship between diabetes.
- Deep learning techniques are used to image segmentation and feature extraction.
- Finding out an algorithmic way to calculate the features of eye blood vessels.
- **Technical Skills:** Deep learning, algorithm development, Image processing
- **Soft Skills:** Time Management, Teamwork, Presentation skills, Report writing.

SafEat smart restaurant POS system

Sri Lanka

University of Moratuwa

Oct 2020 - Aug 2022

- POS system with cloud database along mobile application and Raspberry pi Server with a dashboard access through IP address
- Fully Automated waiterless ordering system along a electronic device to connect and authenticate to the system
- **Technical Skills:** Internet of Things, web designing, 3D modeling, PCB Designing
- **Soft Skills:** Presentation skills, Leadership, Teamwork, Logical Thinking.

System to diagnosis eye strain due to screens

University of Moratuwa

Sri Lanka

Nov 2021 - Aug 2022

- Electronic embedded spectacle and Data processing unit were initially prototyped.
- Involve in Both software (Image processing) and hardware implementation
- **Technical Skills:** Image processing, 3D modeling , PCB Designing.
- **Soft Skills:** Presentation skills, Leadership, Teamwork, Logical Thinking.

Projects

- 2019 **Analog Electronic Projects**, Developed an Analog weight Scale and Analog Line follower
- 2020 **Digital Filter Design**, FIR digital Filter design using Matlab
- 2022 **Image Down-Sampler Processor Design**, Using Verilog | C++ | Matlab
- 2022 **Code Compressor and Decompressor**, Implement 7 compression methods using Java
- 2022 **Simulated Stock Market**, Using Markov chain and Agent Based Modeling with python

Skills

Programming	Python, JavaScript, Matlab, Java , Node JS , React JS , basic ability with: C++,Verilog, Tex, git ,Flutter
Industry Software Skills	Nodered, Arduino , Wordpress, SolidWorks, Matlab, EasyEDA, Altium , LT-Spice, Multisim,Power automate, Power BI
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.
Other Skills	Adobe Premier pro, Photo shop (Basic)

Achievements

2020	Semi Finalist , Maestro 2.0 Business Case Study	Rotaract Moratuwa
2020	Semi Finalist , Hackfest	KDU
2021	4th Place , Brainwave 2021 Computational Model on Distribution products	Society of TLM
2021	Runners Up , Electronic Design Competition	IEEE Sri Lanka
2021	Semi Finalist , Maestro 3.0 Business Case Study	Rotaract Moratuwa
2022	Dean's List , Semester 4 and 6	Degree program
2022	Runners Up , Thinkwave 4.0 Eye screening system	Aiesec Moratuwa

Volunteering

IEEE EMBS MORATUWA STUDENT CHAPTER

Chairman (Aug 2022- Current)	Medi Engi (Founder) , Brainstorm 2023 (Chairperson)
Vice Chairman (Jun 2021- Aug 2022)	Brainstorm 2021 (Organizing Committee)
Event Director (Apr 2020- Jun 2021)	ISC 2021 Moratuwa (Chairperson)

ELECTRONIC CLUB

Member (Aug 2019- Current)	ENTC Career fair 2023 (Chairman) , Knowledge Sharing (Marketing Director)
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IEEE YOUNG PROFESSIONALS

Studpro 5.0 Webmaster (Feb 2022- Current)	Build a React - firebase Web application and deployed
Y2NPro Industry Lead (Feb 2022- Current)	Industry Lead at EMBS sub committee

References

DR. ANJULA DE SILVA

Senior Lecture | Electronic and Telecommunication Department, University of Moratuwa
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DR. RAVINDRA UDAGAMAGE

Senior Medical officer | District General Hospital , Gampaha
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