

Thuvaragan Sooriyakumaran

ENGINEERING UNDERGRAD · DESIGNER · DEVELOPER

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A simple human from planet earth, who loves to integrate art, science and technology to create a smile in the face of others. Have moderate experience with graphic manipulation, web development, low level programming, robotics, digital design and performance optimization. Currently obsessed with RISC-V and open-source digital-design tool-chains.

Experience

Junior Graphic Designer

MATHI COLOURS PRINTERS

Jaffna, SriLanka

2020 - 2021

- Flyer creation and editing
- Graphic manipulation
- Magazines and books compilation and editing

Digital Marketing Assistant

ECOSTEEM PVT. LTD.

Jaffna, SriLanka

2021

- Social media content creation and moderation
- Product modeling and marketing image generation
- Banner designs

Projects

Smart plug development

SEMESTER 2 GROUP PROJECT, SHORT COURSE GROUP PROJECT

 thuvasooriya/pluggu

Mar 2023 - May 2023

- Smart plug with remote control through LAN and WAN, developed around ESP32-S3 micro controller
- Marketing and manufacturing plans outlined

Two wheeled drive robot

SEMESTER 3 GROUP PROJECT

 team-itro/sem3slrc

Aug 2023 - Dec 2023

- Prototyped, designed and implemented a robot that is capable of following white, colored lines
- Custom arm mechanism was designed and integrated to achieve required object manipulation
- Extensive testing of micro controllers : rp2040, stm32f411, stm32f405

Image segmentation evaluation for bin-picking

SEMESTER 4 GROUP PROJECT

 mora-bprs/sam-model

March 2024 - June 2024

- Extensive literary review and recreation of image segmentation and CNN model papers in python
- Development of simple gripper mechanism and associated PCB for testing
- Extensive testing, benchmarking and documentation

Portable doctor companion

MECHA 23 - 2ND RUNNER UP

 biosense-ai/biosense-ai-web-server

Aug 2023 - Oct 2023

- Integrating ECG monitor and SpO₂ sensor with machine learning to provide helpful information in a web dashboard in any device to make screening process easier for doctors
- Orange-Pi Zero 2W SBC is used with custom Linux to integrate monitoring, web-server and prediction algorithms

Analog ECG Monitor Development

SEMESTER 3 GROUP PROJECT

Aug 2023 - Oct 2023

Multi-modal analysis of ECG, SpO₂, Heart sounds for prediction

BRAINSTORM 24

Mar 2024 - Present

ViT Accelerator IP for a custom RISC-V core in FPGA

DVCON 24 - INDIA

 thuvasooriya/vit-malware-detector

May 2024 - Present

- Research and Implementation project for DVCON24 to design a novel ViT accelerator IP for a custom RISC-V core
- Selected in the 20 teams from >100 teams in Stage 1, Stage 2a work ongoing...

Skills

Programming Languages C, System{Verilog}, Python, JavaScript, C++, Zig, Lua, Nix
Programs English, Tamil, Sinhala, Japanese, French
Programs KiCAD / Altium Designer, SolidWorks, MATLAB, LT Spice, Verilator

Achievements

Lead Deputy Batch Representative, Engineering Faculty, UoM,
Senior(Head) Prefect 2020, Jaffna Hindu College
Awards Right To Information Act, National Debate - 1st Place, Tamil, Team Lead,
All Island Senior Dialog Drama - 3rd Place

Education

BSc. in Engineering - Electronics and Telecommunication UNIVERSITY OF MORATUWA	Colombo, SriLanka 2021 - Present
Charted Global Management Accounting (CGMA) ACHIEVERS LANKA	Colombo, SriLanka 2021 - Present
Embedded Systems and Product Design SHORT COURSE BY ENTC DEPARTMENT UOM WITH SKILLSURF.LK	Colombo, SriLanka Aug 2023 - Nov 2023
System {Verilog} and Hardware Design SHORT COURSE BY ENTC DEPARTMENT UOM WITH SKILLSURF.LK	Colombo, SriLanka Jan 2023 - May 2023
<ul style="list-style-type: none">• Certified for completion• Assignment 4 -	
Full Stack Web Development (MERN Stack) UKI CODING SCHOOL - DIGITAL COHORT 1	Jaffna, SriLanka Feb 2021 - July 2021
Primary Education JAFFNA HINDU COLLEGE	Jaffna, SriLanka 2011-2020
<ul style="list-style-type: none">• 9A - G.C.E. Ordinary Level• 3A - G.C.E. Advanced Level	

References

Sayanthi. R ASSOciate LECTURER, UKI CODING SCHOOL	sayanthiselvarasa@gmail.com
Senthilmaran. R PRINCIPAL, JAFFNA HINDU COLLEGE LLB LAW HONS.	senthilmaran@gmail.com