Yasith Silva

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OBJECTIVE

I am a dedicated electronic engineering student, passionate in Embedded Systems Design, Digital Systems Design and Processor Architecture. As a team player with good leadership qualities, I am able to adapt and learn quickly. I seek opportunities to contribute to the ever-evolving, expanding and exciting world of embedded systems, learning along the way.

EDUCATION

University of Moratuwa, Sri Lanka
BSc. (Hons) Engineering, Electronic and Telecommunication — CGPA: 3.56/4.00
May 2022 - Present

D.S. Senanayake College, Colombo 07, Sri Lanka
G.C.E. Advanced Level (Physics, Mathematics, Chemistry) — 3As / z-score 2.21
G.C.E. Ordinary Level — 9As
2012 - 2020

Maris Stella College, Negombo, Sri Lanka
2007 - 2012

TECHNICAL SKILLS

Embedded Systems: Embedded C, Baremetal, FreeRTOS
Programming Languages: Python, C/C++, MATLAB
Hardware Design Languages: Verilog, SystemVerilog
Harware Verification: Testbench Design, Altera-Modelsim
Web Development: HTML, CSS, JavaScript, TypeScript
Other Languages: Bash, Git, LaTex
Applications: ESP-IDF, Altium Designer, Xilinx Vivaldo, Intel Quartus, Verilator, Visual Studio, Codux, Android Studio
Operating Systems: Windows, Raspberry Pi OS, Linux
Relevant Coursework: Embedded Systems Applications (EN2853), Electronic Design Realisation (EN2160), Digital Systems Design (EN3021), Fundamentals of Computer Organisation(EN2031), Data Structures and Algorithms(CS2023)

COURSES AND CERTIFICATES

Introduction to Embedded Machine Learning — Edge Impulse
Introduction to FPGA Design for Embedded Systems
University of Colorado Boulder
Intermediate Machine Learning — Kaggle
Introduction to Computer Vision — Kaggle
MATLAB Onramp — MathWorks

PROJECTS

Wireless Reconfigurable Andon System with Maintenace Prediction:
An Andon System is a system in use in manufacture industries to flag problems. We equipped this with wireless datalogging, and maintenace prediction.

- Designed with *ESP32-S3-WROOM* chip
- Baremetal C coding with *ESP-IDF*
- Basic UI design with the visual IDE *Codux*, with further modifications done later
- Schematics and PCB Design using *Altium Designer*

METROBAND — A Metronome Wristband:
An alternative to traditional metronome which aids musicians to keep to their tempo. The circuit was designed around an ESP32-S2 chip.

- Designed with *ESP32-S2-WROOM*
- Schematics and PCB Design done using *Altium Designer*

UART Transciever using DE0-Nano FPGA Board:
UART Transceiver, communicating between two DE0-Nano FPGA Boards. The design was modified to control a series of LEDs on each board from the other, using the onboard switches on the other board.

- Designed using *Verilog*
- Design verified by a Simulating a Testbench on *Altera-ModelSim*

A Task Oriented Robot:
This is an autonomous line follower robot, with abilities of collision avoidance, a mechanical arm able to pick up an object, colour detection, sound detection, detecting a moving guard robot, and avoiding it.

- Designed with *Arduino MEGA 2560*

Smart MediBox:
This is an appliance attachable to a medicine storage box, with a reconfigurable timer reminding when the medicines are due. Further it contains mechanisms to monitor the environment temperature, humidity, and the light intensity. This medibox can be configured with an online appliance.

- Designed with *ESP-32 Development Board*
- Reconfigurable with *Node-RED Dashboard*

Guitar Pedalboard:
This project aimed to create a set of amplifiers, which adds various audio effects to the audio. Among these effects were Overdrive, Fuzz, Tremolo and Wah. This was done as a fully analog project, using operational amplifiers.

- Simulations using *LTspice*
- Schematics and PCB Design using *Altium Designer*

COMPETITIONS

Uva Wellassa University Robot Battles 2.0 Death Race — Semifinalists:
The competition had around 50 teams manoeuvring a Remote Controlled Battlebots on several races across an outdoor path containing various obstacles such as ramps, saws, hammers and fire.

- Designed the PCB and the wiring system
- Contributed in coding the RF communication part

Microsoft ImagineCup: Project CrystalClear: For this, we created a platform which consists of interactive exercises for Dyslexic patients (targeted mostly at kids). This included a finger-pose model evaluating the exercises.

- Contributed in UI design using *Codux*

Brainstorm‘24: Project CrystalClear — Finalists (Ongoing)

Idealize‘24: SportSense (Ongoing): For this, we created a mobile application which helps users to keep correct pose and form while doing their exercises. This included a stick-figure model evaluating these exercises.

- Contributed in UI design with *Android Studio*

SOFT SKILLS

Communication Skills

- Language Skills
  - English — Bilingual proficiency
  - Sinhala — Native proficiency
- Presentation Skills
  - Was one of the presenters at the Mobitel Lab of the department during EXMO-2023 exhibition.
  - Presented Metroband—The metronome wristband at EXMO-2023
  - Have been a presenter in several other project presentations

Leadership and Teamwork

- Was the leader for a several group projects at the university.
- Was the batch coordinator for the Mobitel Lab at the EXMO-24 exhibition
- Was a part of the PR team of SLRC-2024
- Been in the organising committees at the school events.

EXPERIENCE

Freelance PCB Designer *fiverr*

May 2024 - Present

- Designed and Developed Custom PCB Layouts for projects using *Altium Designer*
- Communicated effectively with clients to understand project requirements

Design Intern *Third Space Global - Sri Lanka*

July 2022 - January 2023

- Created and Brainstormed promotional content, primarily focusing on 2D animations
- Developed skills in visual design and storytelling

VOLUTEERING AND CLUBS

After School

PR & IT Director — Rotaract Club of Acheivers Lanka Business School 2021/22
Video Editor — Electronics Club 2023
Member of Association for Computer Machinery - University of Moratuwa
Member of IEEE Student branch - University of Moratuwa
Member of Classical Music Society - University of Moratuwa

During School

President — Catholic and Christian Society of D.S. Senanayake College 2019
Co-organizer — Aeronautical Society of D.S. Senanayake College 2019
Co-organizer — Western Music Society of D.S. Senanayake College 2019
Member of Senior Boys' Choir of D.S. Senanayake College

INTERESTS

Music — Guitar, Composing
Sightseeing historical places
Panel Shows — QI, Taskmaster, Would I Lie to You
Languages — Spanish, French