

# Yasith Silva

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## OVERVIEW

I am a dedicated electronic engineering student, passionate in Digital Systems Design, Processor Architecture, Embedded Systems and I have a strong foundation in Machine Learning. 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 and exciting world of digital 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

**Hardware Design Languages:** Verilog, SystemVerilog  
**Hardware Verification:** Testbench Design, UVM, Altera-Modelsim  
**Programming Languages:** Python, C, C++, MATLAB  
**Web Development:** HTML, CSS, JavaScript, TypeScript  
**Other Languages:** Bash, Git, LaTeX  
**Applications:** Xilinx Vivaldo, Intel Quartus, Verilator, Altium Designer, ESP-IDF, Visual Studio, Codux, Android Studio  
**Operating Systems:** Windows, Raspberry Pi OS, Linux  
**Relevant Coursework:** Digital Systems Design, Computer Organisation and Architecture, Electronic Circuits Design, Data Structures and Algorithms

## COURSES AND CERTIFICATES

**Introduction to FPGA Design for Embedded Systems**  
University of Colorado Boulder (In Process)  
**Introduction to UVM** — Siemens Verification Academy (In Process)  
**Introduction to Embedded Machine Learning** — Edge Impulse  
**Introduction to Machine Learning** — Kaggle  
**Intermediate Machine Learning** — Kaggle  
**Introduction to Computer Vision** — Kaggle  
**MATLAB Onramp** — MathWorks

## PROJECTS

**UART Transceiver 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 *SystemVerilog*
- Design verified by a Simulating a Testbench on *Altera-ModelSim*

### **Wireless Reconfigurable Andon System with Maintenance Prediction:**

An Andon System is a system in use in manufacture industries to flag problems. We equipped this with wireless datalogging, and maintenance 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*

### **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*

### **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*

### **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