



# Abhayasiriwardhana Kamesh Anuradha

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## Research Interests

- Machine Learning
- Computer Vision
- Back-end Development
- Blockchain

## Education

### University of Moratuwa

Aug 2021 – Present

BSc Eng (Hons) in Electronic and Telecommunication Engineering

GPA (Up to Semester 4): 3.78/4.00

- Pathway: [Computer Vision and Pattern Recognition](#)
- Dean's List: Semester 1 and 2

### Embilipitiya President College

Jan 2011 – Aug 2019

General Certified Examination Advanced level

Aug 2019

- Z-Score: 2.5627
- Combined Maths: A, Chemistry: A, Physics: A
- District Rank: 6, Island Rank: 151

### Embilipitiya President College

Jan 2011 – Aug 2019

General Certified Examination Ordinary level

Dec 2016

- Grade: 8A, 1B

## Technical Skills

**Languages/Database:** C++(Intermediate), Python(Intermediate), Java(novice), JavaScript(novice), Matlab(novice), C(novice), Verilog(novice), VHDL(novice)

**Web Technologies:** Angular, NodeJS, MongoDB

**Developer Tools:** Google Colab, VS Code, Sublime Text, MPLab

**Version Control:** Git, GitHub

**Frameworks:** Bootstrap, Angular, Sklearn

**Software Tools:** Altium Designer, Solidworks, Multisim, LTspice, Quartus

## Relevant Coursework

**Mathematics:** Mathematics(A), Methods of Mathematics(A+), Calculus(A+), Differential Equations(A), Linear Algebra(A-)

**Miscellaneous:** Circuits, Signal and System(A), Data Structures and Algorithms(A+), Computer Organization and Architecture(A)

## Courses

### Blockchain Basics

Ongoing

- Offered by University at Buffalo

### Object Oriented Programming in Java

Ongoing

- Offered by University of California San Diego

### HTML, CSS, JavaScript for Web Developers | [Link](#)

May 2022

- Offered by Johns Hopkins University

### Full-Stack Web Development with Angular Specialization | [Link](#)

May 2022

- Offered by Hong Kong University of Science and Technology

### Python and JavaScript skills certification | [Link](#)

Apr 2022

- Offered by HackerRank

### Python and C++ Courses | [Link](#)

Apr 2022

- Offered by SoloLearn

### Web Design for Beginners | [Link](#)

Mar 2022

- Offered by University of Moratuwa, DP Educations

## Undergraduate Projects

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### Air Quality Monitoring Device | *Altium Designer, Proteus, SolidWorks, ArduinoIDE* [Git](#) Jul 2023

- This is a individual Project that aimed to design a compact and portable device that could provide real-time measurements of CO2 concentration, temperature, humidity and Dust concentration in various indoor environments.

### Maze Solving Robot | *ArduinoIDE, SolidWorks* Feb 2023

- Robotic project is a Group Project that involves designing an autonomous robot capable of navigating through a maze by employing both line following and wall following strategies.

### Webots Robot Simulation | *Webots, SolidWorks* [Git](#) Feb 2023

- This project incorporates three distinct tasks, namely Color Line Following and Recognition, Wall Following, and Chess Board Solving.
- We used C++ for the integration of intelligent algorithms, sensory perception, and precise control strategies.

### Five Band Equalizer | *Altium Designer, SolidWorks, Multisim* [Git](#) Jan 2023

- This is a Group Project that is a Analog project aimed at creating a versatile audio equalizer capable of adjusting the levels of five different frequency bands in an audio signal.

### Extension Code with a Timer | *Altium Designer, SolidWorks, LT spice* [Git](#) Sep 2022

- This project is a Group project that is an innovative extension code, this project offers the ability to set specific turn-on and turn-off times, as well as implement periodic on-off cycles for the designated device.

## Projects

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### IEEE TinyML Design Contest at ICCAD | *Python, Colab, PyTorch* [Git](#) Sep 2023 - Ongoing

- The contest is to build an AI/ML algorithm capable of classifying life-threatening ventricular arrhythmias (VAs) using only labeled one-channel intracardiac electrograms (IEGMs) sensed by single-chamber ICDs.

### Flower Exchange Application | *C++, Multi Threading, Shared Resources* [Git](#) Sep 2023

- This project is a group project given by the LSEG Company and it should be able to take an order list as input and generate an output exchange sequence file.
- The application developed using object-oriented programming and used multi-threading to optimize the application and mutexes used to control access to shared resources.

### Customer Market Segmentation using Machine Learning | *python, Colab, sklearn* [Git](#) Aug 2023

- The goal of this Coursera guided project is to develop a machine learning model using the K-Means algorithm and the elbow method to classify customers based on their credit card usage and payments to the bank.

### Titanic Survival Prediction using Machine Learning | *python, Colab, sklearn* [Git](#) Aug 2023

- The Coursera guided project involved the development of a machine learning model using logistic regression and naive Bayes algorithms to make predictions about whether passengers on the Titanic survived the disaster.

### Automated Dam Prototype | *MPlab, C, AVR, PIC Micro-controller* [Git](#) Jul 2023

- This project is a group project given by Temasek Polytechnic in Singapore, aiming to automate water gate operations with periodic opening and closing to manage water flow.
- Real-time monitoring of water level and water temperature displayed on an integrated LCD screen
- Warning lights and an alarm system activated during gate opening to alert relevant stakeholders.
- Inclusion of a seven-segment display to indicate the duration of gate openness.

### VGA implementation on a FPGA Board (EXMO 2023) | *Quartus, Verilog, VHDL* Jul 2023

- Implemented VGA output functionality on Intel DE2 FPGA and Xilinx Zybo FPGA using VHDL and C languages for hardware design.

### Restaurant Website | *Angular, MongoDB, NodeJS, JavaScript* May 2022

- This project related to Coursera Full-stack Specialization.
- Developed the restaurant website using Angular for the front-end and NodeJS for the back end.

### CNC Drawing Robot | *Arduino, G-Code* Sep 2021

- The CNC drawing robot utilizing Arduino, incorporating two precision stepper motors and a single servo motor.

## **Experiences and Competitions**

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**Silver Medalist of 2019 Sri Lanka Physics Olympiad**

## **Extra-curricular Activities**

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**IEEE ComSoc Student Branch Chapter of University of Moratuwa - WebMaster**

**E-Club Electronic and Telecommunication Engineering - Regular Member**

## **References**

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- [2] Dr. Sampath K. Perera,  
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