

DININDU THILAKARATHNA

Sri Sumanawansa Mawatha, Kebillewela South, Bandarawela, Sri Lanka

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INTERESTS

- Robotics and Automation
- Algorithmic Programming
- Embedded Systems
- Mobile Application Development
- Web Application Development

EDUCATION

University of Peradeniya

Undergraduate in BSc. Engineering(Hons.)

2021 Apr - Present

GPA: 3.893/4.00

Bandarawela Central Collage, Bandarawela

G.C.E. Advanced Level Examination

District Rank - 10, Island Rank - 471

Physics (A), Combined Mathematics (A), Chemistry (B)

2003 - 2016

Z-Score: 2.0702

G.C.E. Ordinary Level Examination

8 A Passes, 1 B Pass

SKILLS

Programming Languages

Python, Java, JavaScript, C, C++

Numerical Computing Packages

MATLAB, Octave, Numpy

Hardware Programming

Arduino, Verilog HDL

Mobile Application

Flutter, Android Studio

Web Application

Python Django, PHP Laravel

3D Modelling

Fusion360, Solid Works, AutoCad

Practical Skills

Soldering, PCB design and development

Languages

English, Sinhala

ACHIEVEMENTS

IEEEEXTREAM 14.0

(Country Rank - 9, World Rank - 124)

Task : Algorithmic Programming Competition

2020

Google Code Jam

Selected to round 2 (world rank - 3847)

Task : Algorithmic Programming Competition

2020

Google KickStart

Round A (world rank - 2777)

Task : Algorithmic Programming Competition

2020

UOJ Cordors v8.0

Second Runners-up

Task : Inter University Algorithmic Programming Competition

2019

Pre-Extreme	2019
Second Runners-up	
Task : Intra University Algorithmic Programming Competition	
IEEEEXTREAM 13.0	2019
(Country Rank - 7, World Rank - 172)	
Task : Algorithmic Programming Competition	
ACES Corders v8.0	2019
Country Rank - 5 (more than 120 teams)	
Task : Inter University Algorithmic Programming Competition	
ACES Hackathon	2019
Finalists	
Project : SAFERO (Safe Route Escape System During Flood)	
SLIIT Overnight Hackathon	2019
Finalists	
Project : Algorithmic Programming Competition	
SLIIT CODEFEST	2019
Merit Award	
Project : You See World (Personal Guidance System to Blind people)	
HACKDEV YOUTH SOCIAL INNOVATION CHALLENGE	2019
Selected to final teams (Get an opportunity and funds to develop our project as a product)	
Project : You See World (Personal Guidance System to Blind people)	
IEEE ADVANCING TECHNOLOGY FOR HUMANITY HUMANITARIAN TECHNOLOGY PRODUCT COMPETITION, GENERAL TRACK	2018
Runners UP	
Project : You See World (Personal Guidance System to Blind people)	
ACES Corders v7.0	2018
Country Rank - 7 (more than 120 teams)	
Task : Inter University Algorithmic Programming Competition	

PROJECTS

Obstacle robot swarm for swarm robotic project	2020-2021
<ul style="list-style-type: none"> · swarm robos. · <i>Technologies: Python, OpenCV, numpy, MQTT, JavaScript, GRPC</i> · <i>Techniques: Image Processing, stochastic gradient descent, Encryption</i> 	
Crypto currency ticker site	2020-2021
<ul style="list-style-type: none"> · Crypto currency to fiat currency conversion sites with high refresh rates And analysing trends real time · <i>Technologies: Python, MQTT, JavaScript, CSS, Web Sockets, Nginx, Python Django</i> · <i>Techniques: Real time web socket connections to clients for fast refresh rates</i> 	
Vegetable delivery system Seller App (Elavalu Gowiya on Playstore)	2020-2021
<ul style="list-style-type: none"> · Vegetable delivery system, Seller registration, Item Management and Order management · <i>Technologies: Flutter, Firebase, Fire-store, Cloud Functions</i> · <i>Techniques: Firebase and Firestore based App for Android and IOS</i> 	

Design and installation of automation system and the Electrical System for Disinfection Chambers for Diyathalawa Base Hospital, Bandarawela Hospital

2020

- Atmel microcontrollers, Solenoid valves and Contactors for pump
- *Technologies: C++ Atmel Microcontrollers, Custom PCB Design*
- *Techniques: Embedded systems, Micro controller Programming, 220v Pump Controlling using contactors*

Automatic Water tank filling system to Hotel ALOFT Grand, Ella

2020

- Intelligent tank filling system, tanks located in three height levels. Controlling water pumping and solenoid valves to direct water to tanks necessary
- *Technologies: C++ Atmel Micro controller, Custom PCB design*
- *Techniques: Embedded systems, Micro controller Programming, 220v Pump Controlling using contactors*

Verilog Based CPU

2020

- Designing of a 32-bit CPU which supports simple instructions with caching.
- *Technologies: Verilog*
- *Techniques: Computer Architecture*

8-bit Computer

2020

- Design and building a 8-bit computer.
- *Technologies: Embedded system, Integrated circuits*
- *Techniques: Computer Architecture*

Escape route generation system during floods

2019

- Generates escape routes during floods by estimating water levels in rivers and inundation maps.
- *Technologies: Flutter, Google Maps Direction API*
- *Techniques: Shortest Path and optimization algorithms*

Personal Guidance System for Blind Person

2019

- Stick with sensors and chest mount camera to process images, notify the details about surrounding to the blind person through a vibration belt. And a user friendly app with voice control capabilities (to find the stick if misplaced or notify relatives if the blind person needs help).
- *Technologies: Arduino Microcontroller, Raspberry Pi, Ultrasonic Sensors, Gyroscope, OpenCV, TensorFlow*
- *Techniques: Sensor Calibration, Vibration Pattern Optimization, Android Studio, Bluetooth Communication*

Various Other Hobby/Course Projects

2018-2019

- Analog Line Follower (PD Controller based), Logic Gate level implementation of a 4-digit pass-code lock, Smart home system with raspberry PI, Wire Bending Machine (CNC)
- *Technologies: Analog and Digital Electronics, Arduino*

EXTRA-CIRRICULAR

Casual Instructor, University of Peradeniya (2020/2021)

Active member ACES club of the University of Peradeniya (2020 - Present)

Active member of the Hacker's club of the University of Peradeniya (2020 - Present)

Active member Science Society, Bandarawela Central College (2014 - 2016)

OTHER INTERESTS AND HOBBIES

3D modeling and digital art Enthusiast.

Designing Embedded systems.

Music

Athletics

REFERENCES

Prof. Roshan G. Ragel

Professor, Dept. of Computer Engineering

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Dr. Isuru Nawinne

Senior Lecturer, Dept. of Computer Engineering

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