V.W.M.DIMUTHU PRABODHA

Undergraduate

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ABOUT ME

I'm passionate about embedded systems and have developed hands-on expertise with Arduino, NodeMCU, and STM microcontrollers through both academic and personal projects. I thrive on solving real-world engineering challenges, whether designing solar trackers, leading IEEE workshops, or prototyping sensor networks, and continually seek out new technologies to enhance my practical skills and drive impactful innovations.

EDUCATION

GCE Advanced Level
Ambagasdowa President College
2019 – 2022

Bachelor of Engineering Technology – Honours in Mechatronics Technology
University of Sri Jayewardenepura
2023 – Present

SOFT SKILLS

- Management Skills
- Problem-Solving
- Digital Marketing
- Leadership & Teamwork
- Project Handling
- Collaboration

LANGUAGE

- English
- Sinhalese

EXPERIENCE

Co Chair - J'PURA EXPEDITION — *2025*
IEEE Student Branch of University of Sri Jayewardenepura

Event Coordinator — *2023 - 2024*
MTSS - University of Sri Jayewardenepura

Batch Coordinator — *2025 - Present*
MTSS - University of Sri Jayewardenepura

Secretary — *2024 - 2025*
Environmental Subcommittee - Student Union

Vice Chair — *2024 - Present*
IES Chapter, IEEE Student Branch of University of Sri Jayewardenepura

Team Member — *2021 - Present*
The Digital Wellbeing Initiative

Project Member — *2021 - Present*
Mechatronics Project

Workshop Speaker — *2020 - 2022*
ICT Club - Ambagasdowa President College

TECHNICAL SKILLS

- **Microcontroller/FPGA programming:** Arduino, ESP, STM
- **Programming:** Python, C, C++, MATLAB, SQL
- **IoT Platforms:** Thingspeak, Blynk
- **Circuit Design & Simulation:** LTspice, Kicad
- **Graphical programming:** LabVIEW
- **Data Analysis:** TensorFlow, NumPy Basic
- **Automation:** Ladder logic
- **ML:** Jupyter Notebook, Google Colab

CERTIFICATES

- **Git and GitHub Certificate**
  Microsoft Learn Student Ambassadors
- **Powering the Renewables Future: Beyond Batteries**
  Mechatronics Technology Students Society
- **IEEE Extreme**
  Institute of Electrical and Electronics Engineers
- **Arduino Code Camp**
  Institute of Innovators

PROJECTS

SMART IRRIGATION SYSTEM
Designed a microcontroller-driven IoT irrigation solution using ATmega32 and ESP8266; monitors soil moisture, temperature, and humidity, streams data to ThingSpeak, and actuates a water pump to minimize water use and boost efficiency.

Database-Oriented Solar Panel Tracking System - Ongoing
An IoT-enabled solar tracker uses an array of LDR sensors and ML algorithms to calculate optimal panel tilt and orientation. It streams real-time angle, irradiance, temperature, and system status data to a central database for analytics and remote dashboard monitoring. A closed-loop control loop corrects sensor errors to maintain precise alignment and boost energy yield. Its scalable design supports both prototype setups and full-scale solar farms, with optional machine-learning integration for adaptive responses to sudden weather changes.

Interligent Plant Monitoring & Control System - Ongoing
Conceptualizing an end-to-end Arduino/ESP32 IoT + ML framework for plant beds researching cloud platforms (AWS IoT Core, ThingsBoard) and ML toolkits (SageMaker, TensorFlow Lite) to enable automated sensing, analytics, recommendations to the user, and actuator-driven care.

REFERENCES

Dr. Gaya Jayakody
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