Dulaj Bopitiya

Detail-oriented Electrical and Electronics Engineering undergraduate with hands-on experience in embedded systems, PCB design, and IoT integration. Proven ability to deliver innovative solutions through freelance projects and an engineering internship. Passionate about robotics and automation, with a strong foundation in real-time systems and firmware development. Committed to continuous learning and applying engineering principles to solve real-world challenges.

Work Experience

Engineering Intern, DIMO Lanka Pvt Ltd, Electrical Division

Jul 2024 - Sep

- Gained exposure to medium voltage (MV) systems, Ring Main Units (RMUs), and transformer maintenance procedures.
- Participated in substation servicing and field inspections, ensuring adherence to safety and reliability standards.

Freelance Embedded Systems & Electronics Developer

Upwork, Fiverr **2023 – Present**

- Delivered a variety of embedded electronics and IoT projects for international and local clients, from concept to deployment.
- Designed custom PCBs using KiCad and EasyEDA for sensor interfaces and control systems.
- Developed firmware for ESP32, STM32, Arduino, and PIC microcontrollers utilizing PlatformIO and STM32CubeIDE.
- Created end-to-end IoT systems, including wireless biomedical monitoring and poultry farm automation, collaborating with clients on rapid prototyping and production-ready solutions.

Projects

Smart Poultry Farming System

- Developed a dual ESP32 setup with LVGL UI, RTC-based feeding, OTA updates, and UART-JSON protocol for real-time monitoring and control.

Micromouse Robot v1 & v2

- Designed and built two versions of a maze-solving robot using ATmega328 and ESP32-S3 with FreeRTOS, incorporating IR sensors and encoder feedback for real-time pathfinding.

Li-Po Battery Charger Module

- Created a TP4056-based charger with overcharge/discharge protection and a boost converter for efficient battery management.

Wearable Biomedical Device

- Developed an ESP32-based health monitor with Wi-Fi control and live TFT UI for real-time health tracking.

RC Plane Sensor Fusion

- Implemented a dual MPU9250 IMU system for stable flight data processing.

Educational Background

BSc (Hons) in Electrical and Electronics Engineering

Sri Lanka Institute of Information Technology (SLIIT)
Expected Graduation: [2026]

Contact

+94 710475008
dulajbopitiya111@gmail.com
Dulaj-Bopitiya
dulaj-bopitiya
DulajBopitiya
Sri lanka

Skills

Technical Skills

- Embedded Firmware Development
- PCB Design
- UI Development
- Robotics and Automation
- OTA Update Systems
- Real-Time Systems
- FPGA
- STM32

Tools/Sofware

- Platform IO
- Arduino
- MATLAB
- KiCad
- EasyEDA
- Altium
- SquareLine Studio

Certification/Short Courses

- Udemy Crash Course Electronics and PCB Design by Andre LaMothe

Achievements

- Participated in **Robofest 2024**, advancing to the final round with a custom-designed autonomous robot
- Regular competitor in line-following robot competitions, showcasing custom hardware and control algorithms

Reference

MS. Thanushika Jathunga - Lecturer
Department of Electrical and Electronics Engineering - SLIIT
Tel: 0713716733
Email: thanushika.j@sliit.lk