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About me

- Highly motivated **Instrumentation and Automation undergraduate** with strong hands-on experience in **embedded systems, electronics, and IoT-based design**. Skilled in **microcontroller programming (Arduino, ESP32)**, **software development (C#, Python)**, and no-code web design. Proven ability to apply both theoretical knowledge and practical expertise to develop innovative hardware and software solutions. Recognized for teamwork, leadership, and commitment to continuous learning and excellence in technology-driven environments.

Education

- **University of Colombo - Faculty of Technology** — Colombo, Sri Lanka
  B.ET (Hons) in Instrumentation and Automation — *Aug 2023 – Expected Jul 2027*
- **G.C.E. Advanced Level Examination** — Sri Lanka
  Technology Stream – 3B Passes with 1.82 Z-Score — *2021*
- **Industrial Electrical Technician (NVQ Level 4)** — National Vocational Qualification, Sri Lanka
  Certified by Tertiary and Vocational Education Commission (TVEC) — *2021*
- **Fundamentals of Digital Systems** — University of Moratuwa, Sri Lanka
  Completed Certificate Program — *Nov 30, 2024*

Work Experience

- **Extra Electronics** — Trincomalee, Sri Lanka
  Mobile Repair Technician — *Nov 2021 – Jul 2023*
  - **Smartphone diagnostics:** Specialized in advanced board-level repairs, micro-soldering, and troubleshooting.
  - **Schematics interpretation:** Used electronic circuit diagrams to perform precise component repairs.
  - **Technical skill development:** Gained expertise in rework, soldering, and calibration of circuit components.
- **Lanka Mineral Sands Limited** — Pulmoddai, Sri Lanka
  Electrical Technician Intern — *Mar 2021 – Sep 2021*
  - **Industrial Training:** Completed six-month NVQ Level 4 training in electrical systems.
  - **System maintenance:** Assisted in house wiring, CCTV installation, and motor coil winding.
  - **Preventive Maintenance:** Supported troubleshooting in industrial electrical circuits.

Technical Skills

- **Programming Languages:** C, C++, C#, Python

- **Embedded Systems:** Arduino (UNO, ESP32), Embedded C/C++, LoRa Communication (AT commands), Proteus 8, SimulIDE, PCB Design (EasyEDA, KiCad)

- **Software Development:** Visual Studio (C# GUI apps), Bubble.io (No-code web apps), GitHub, Version Control

- **Electrical & Technical:** House wiring, CCTV setup, Motor coil winding, Circuit troubleshooting, Instrumentation and automation systems

- **Software & Tools:** SolidWorks (3D design), Octave (simulation)

Projects

- **Wireless Emergency Alarm System** — University of Colombo
  IoT and Embedded Design Project — *2023*
  - **System Design:** Developed wireless alarm communication using Arduino Uno and LoRa.
  - **Power Management:** Designed Battery Management System (BMS) for 7-day backup.
  - **Communication Protocol:** Integrated LoRa AT-command interface for long-range operation.
  - **Recognition:** Selected for presentation at the **Annual Research Symposium 2024**.

- **Custom Line-Following Robotic Car**   University of Colombo
  Autonomous Embedded System   2024
    - **Microcontroller Design:** Built robot using ATmega328P without development boards.
    - **Sensors:** Integrated custom IR and ultrasonic sensors for obstacle detection.
    - **Hardware Implementation:** Designed and soldered circuits manually, showcasing full hardware knowledge.

- **Advanced Robotic Transport Vehicle**   University of Colombo
  Ongoing Research Project   2025 – Present
    - **System Development:** Developing autonomous transport robot using ESP32 and motion algorithms.
    - **Simulation:** Testing designs in Proteus 8 and SolidWorks.
    - **Wireless Communication:** Designing control architecture for remote operation.

- **Assistive Writing Device**   University of Kelaniya
  Make-a-thon 2025 Finalist Project   2025
    - **Design Innovation:** Created assistive tool for differently-abled children to improve writing ability.
    - **3D Printing:** Used TPU and ergonomic design principles for comfort and adaptability.
    - **Achievement: Finalist** at the Make-a-thon 2024 competition.

- **Advanced Scientific Calculator & Unit Converter**   Personal Project
  C# Application Development   2024
    - **Software Design:** Developed a Windows-based calculator using C# with multiple forms (MDI interface).
    - **Features:** Included scientific functions, unit conversion, and temperature conversion modules.
    - **Interface Design:** Implemented an intuitive blue-themed UI using Visual Studio.

- **Learning Management System (LMS)**   Personal Project
  No-Code Development with Bubble.io   2025
    - **System Creation:** Built a web-based LMS for course management and student tracking.
    - **No-Code Development:** Designed database workflows, user authentication, and responsive UI using Bubble.io.
    - **Objective:** Focused on creating a scalable, user-friendly educational platform prototype.

Leadership and Volunteer Experience

- **President – University Students Association (Pulmoddai)**   USAP-Pulmoddai
  Leadership Role   *Sep 2025 – Present*
    - **Leadership:** Overseeing student welfare programs and event coordination within the Pulmoddai chapter.
    - **Team Collaboration:** Leading initiatives to improve communication between student representatives and faculty.

- **Organizing Committee Member – Ahlan 2024**   Muslim Majlis, University of Colombo
  Event Organization   2024
    - **Coordination:** Assisted in planning and executing university-level cultural and social events.
    - **Teamwork:** Worked collaboratively to ensure smooth event logistics and participation.

Accomplishments

- Finalist – Make-a-thon 2025, University of Kelaniya

- Selected Project – Annual Research Symposium 2024, University of Colombo

Languages

- English

- Tamil

- Sinhala

References