


# KUSAL SANDAMAL

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 256/E, Thilakapura Rd, Kobeyithuduwa, Batapola, Sri Lanka

## PROFILE

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Motivated undergraduate specializing in Instrumentation and Automation Technology at the University of Colombo. Passionate about industrial automation, embedded systems, and control engineering. Skilled in PLC programming, microcontroller development, and 3D technical design using SolidWorks. Eager to apply academic knowledge, gain hands-on industrial experience, and contribute to innovative automation projects during a six-month internship.

## EDUCATION

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Bachelor of Engineering Technology (Hons) in Instrumentation and Automation Technology (Reading)  
Faculty of Technology, University of Colombo | Expected Graduation – 2027

G.C.E. (Advanced Level) – Technology Stream | 2021

## Academic Projects

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### **Bird Repulsion Mechanism for an Academic Building | Research and Innovation Exhibition – 8th Annual Symposium 2024**

- Designed and demonstrated an automated system to repel birds from buildings using sensors and sound.
- Integrated automation principles with environmental protection concepts.

### **Line Following Robot with Obstacle Detection and Mode Switching | ATmega328P Microcontroller**

- Programmed a robot to follow a line path and detect obstacles using infrared sensors.
- Implemented automatic switching between manual and autonomous control modes.

### **Custom Workstation Table – Design to Fabrication | SolidWorks & Mechanical Workshop Project**

- Designed a complete workstation table structure using SolidWorks, including 3D modeling and fabrication drawings.
- Performed hands-on manufacturing: metal cutting, drilling, assembling, and finishing to convert the CAD model into a functional product.

### **Smart Greenhouse Data Acquisition System | Data Acquisition & Automation Project**

- Developed a Python-based desktop application to communicate with a microcontroller via a COM-port selector for real-time monitoring.
- Integrated three environmental sensors to measure temperature, humidity, soil moisture, and light intensity with live graphical visualization.
- Added actuator control features (fan, pump, LED grow light) from the application, enabling automated environmental regulation inside the greenhouse.

## TECHNICAL SKILLS

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- Automation: PLC Programming (Siemens STEP 7), Ladder Logic, Industrial Control Systems
- Embedded Systems: Arduino, ATmega328,
- Design & Documentation: SolidWorks, Technical Drawings, Circuit Design
- Software Tools: MATLAB (basics), Microsoft Office
- Soft Skills: Leadership, Teamwork, Time Management, Problem Solving, Adaptability

## LEADERSHIP & INVOLVEMENT

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**Coordinator** – Society of Instrumentation and Automation Technology (SIAT)  
Faculty of Technology, University of Colombo | 2022 – 2025

- Organized student events, workshops, and academic programs to promote collaboration and technical growth among peers.

## LANGUAGE

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English - Intermediate  
Sinhala – Native

## REFERANCE

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**Mr. K.A.D. Chamath Adithya**  
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