

# SAHAYANATHAN RENOLSON

Electrical And Electronic Engineer(UG)  
B.Sc. Eng.(Hons)(Reading)



## About Me

I am an electronics and automation enthusiast with hands-on experience in embedded systems, industrial control, and IoT. My current focus is on integrating AI/ML into automation projects—exploring predictive maintenance, computer vision, and smart control algorithms. Skilled in microcontroller programming (Arduino, ESP32), PLCs, and Python for automation, I thrive at the intersection of hardware and intelligent software. Always learning, I'm passionate about bridging traditional electronics with cutting-edge AI to build smarter, more adaptive systems.

## Skills

### Embedded Systems & IoT

- Microcontrollers: Arduino, NodeMCU , Ras Pi
- Embedded Programming: C++, Python (MicroPython)

### Industrial Automation

- PLC Circuit Design: EasyEDA (Schematic & PCB)
- CAD: SolidWorks | Auto CAD (Basic 3D modeling)

### AI & Computer Vision

- Libraries: OpenCV
- Hardware: NVIDIA Jetson Nano (
- Robotics: ROS (Basic)

### Cloud & Data

- AWS: IoT Core, EC2, S3
- Visualization: Grafana

## Education

### Engineering Undergraduate B.Sc. Eng.(Hons)(reading)

Dept of Electrical and Telecommunication Engineering  
South Eastern University of Sri Lanka  
(2022 - 2027)

## Language

English

Tamil

Sinhala

## Professional Experience

### SLT Digital Lab- Sri Lanka Telecom Research And Development Section

Electrical & Electronic Engineer Trainee  
(From June 2024 to September 2024)

## Projects

### PILL PAL- AUTOMATED PILL DISPENSER

- Developed a smart pill dispenser using IoT to automate medication schedules, improving adherence for patients.
- Integrated sensors and microcontrollers to dispense pills at preset times with alert notifications.

Nodemcu | C++ | Ardino | Actuators | 3D Printing

### SMART AGRO PROJECT

- Designed and prototyped a smart irrigation system using AWS IoT Core for real-time sensor data and remote monitoringNodeMCU and sensors, enabling farmers to monitor fields via a mobile/web interface.
- Monitor fields via a mobile/web interface.

AWS IoT Core | EC2 | S3 | Grafana | MQTT | Python

### JR-25 REAL TIME ROBOT (On Going)

- Developing a multimodal AI robot using NVIDIA Jetson Nano for real-time video/voice processing, integrating Gemini API for advanced NLP/vision tasks.
- Implementing autonomous decision-making for human-robot interaction (object recognition, voice commands).

Python | OpenCV | Gemini API | ROS | Jetson Nano

## REFERENCE

Dr W.G.C.W Kumara

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My Portfolio