

# Akindu Kalhan

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## Summary

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Electrical Engineering undergraduate at the University of Moratuwa with a strong passion for **AI, computer vision, robotics, and embedded systems**. Experienced in building solutions that bridge hardware and software through projects.

Passionate about solving impactful engineering problems, while actively taking on leadership roles in university clubs and competitions.

## Projects

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### Event Planner Assistant & Event Management Platform with Jac Jul 2025

- Built a CLI Event Planner Assistant (Jac + Jaseci, LLM-powered reasoning) for event creation, checklists, and budget suggestions.
- Developed a full-stack Event Management Platform (Next.js + Tailwind frontend, Jac backend) with AI-driven planning support.
- **My contribution:** Focused on backend development in Jac, integrating LLM-powered reasoning and testing workflows.

### Vision-Based Object Sorting Robot Arm Jun 2025

- Built a vision-based robotic arm for automated detection, classification, and sorting of colored objects.
- Developed the computer vision pipeline with OpenCV and designed a custom color sensor.
- Integrated with LabVIEW for automated pick-and-place operations.
- **My contribution:** End-to-end development of vision modules and custom sensor.

### TripMate Jul 2025

- Full-stack trip planning web app with budget estimation, destination suggestions, and itinerary generation.
- Developed React frontend and Spring Boot backend.
- **My contribution:** Project lead; managed all responsibilities and contributed to full-stack development.

### Advanced Light Intensity Indicator (ALII) Nov 2024 – Dec 2024

- Designed a smart module using an LDR and seven-segment displays to monitor real-time and average light intensity (0–7) with user-adjustable stabilization (30–300s) and averaging periods (300–900s).
- Implemented features for stable readings against sudden light changes, easy reset, and user control.
- Optimized for energy efficiency, solar integration, and sustainable light management.

## TaskMate

Sep 2024 – Oct 2024

- AI-driven task manager assigning tasks based on skills and availability.
- Integrated React frontend, Flask backend, Gemini AI, and Ballerina for real-time updates.
- **My contribution:** Served as team lead, managing full-stack development and AI integration with Gemini, while overseeing task scheduling implementation.

## SEIAN – Smart Energy Integration and Automation Network

2023

- Developed an intelligent inverter system for precision, stability, and scalable energy management, enabling seamless integration of multiple inverters for homes to industrial setups.
- Features include real-time optimization, synchronized energy sharing, off-grid reliability, and market-ready sustainable impact.
- **My contribution:** Developed the main control logic to govern the inverters and ensure efficient, synchronized operation.

## Email Automation using n8n

Apr 2025

- Built Smart Email Assistant with n8n, Telegram, Gmail API, and Gemini 1.5 Flash.
- Enabled reading and sending emails directly via Telegram bot.
- Combined AI and automation to simplify daily communication.

## Education

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### University of Moratuwa, Sri Lanka

Feb 2023 – Present

B.Sc. (Hons) in Electrical Engineering

GPA: 3.65/4.00 (As of Semester 3)

Relevant Courses: Programming Fundamentals (A), Computer Systems (A), Basic Electronics (A+), Data Structures & Algorithms (A), Modular Software Development (A)

### Royal College Colombo

Jan 2008 – Feb 2022

A/Ls: Combined Mathematics, Chemistry, Physics

Z-score: 2.2687

## Technical Skills

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**Languages/Tools:** Python, C, C++, Java, MATLAB

**Frameworks:** Spring Boot, Flask

**Tools:** Git, Postman API

**Computer Vision:** OpenCV, YOLO

## Extra-curricular Activities

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**Treasurer** – Leo Club of University of Moratuwa (Jun 2025 – Present)

**Assistant Treasurer** – Leo Club of University of Moratuwa (Jun 2024 – Jun 2025)

**Department Representative** – Dept. of Electrical Engineering (Jan 2025 – Present)

**Co-Director (IT)** – Rotaract Club of UoM (Jul 2024 – Jun 2025)

**Event Coordinator** – Gavel Club of UoM (Feb 2025 – Present)

**Director of Digital Services** – Rotaract RID 3220 (Jul 2024 – Mar 2025)

**Project Chairperson** – Tharka Debating Competition (2024)

## Honors & Awards

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Champions – FINNC’25  
1st Runners-up – SLIoT Challenge 2025  
2nd Runners-up – ComFix Challenge 2025  
Finalist – SLIoT Challenge 2023  
Most Outstanding Project Chairperson (Leo Year 2023–2024)  
Active Membership Award – Rotaract UoM  
Spirit of Service – Rotaract UoM

## Certifications

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Prompt Design in Vertex AI (Google, Apr 2025)  
GenAI 101 with Pieces (Nov 2024)  
Artificial Intelligence in Embedded Systems (ENTC-UoM, Oct 2024)  
OpenCV Bootcamp (OpenCV University, Sep 2024)

## References

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### **Dr. Logeeshan Velmanickam**

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### **Prof. Buddhika Jayasekara**

Professor, University of Moratuwa  
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