

ILHAM AZIZ SAPUTRA

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PERSONAL PROFILE

Electrical Engineering graduate with a strong passion for electrical systems, control systems, and robotics technology. Experienced in power distribution through industry internship and active in hands-on projects and robotics competitions. Proficient in circuit analysis and control system programming with a high enthusiasm for learning and making real contributions in the industrial field.

EDUCATION

Universitas Muhammadiyah Surakarta - Bachelor of Electrical Engineering

Jul 2021 – Jul 2025

- GPA: 3.81 / 4.00
- Concentration: Power System Engineering
- Thesis: "Design and Development of an Automatic Waste Sorting Robot Using DC Motor Encoder for Positioning"

WORK EXPERIENCE

Robotics Instructor - Elementary to Junior High Schools in Soloraya

Nov 2022 – May 2025

- Delivered robotics training based on Arduino and IoT systems
- Developed teaching materials and modules
- Mentored student teams in regional and national robotics competitions

PT PLN (Persero) ULP Semarang Tengah - Internship

Aug 2024 – Nov 2024

- Supported installation of new kWh meters and maintenance of distribution networks
- Conducted technical field documentation and data management
- Performed distribution system analysis to improve efficiency and customer service

ORGANIZATIONAL EXPERIENCE

ROBOT RESEARCH UMS (Competition Department)

- **Staff Member** Dec 2021 – Dec 2022
I contributed to internal logistics, managed competition schedules, and assisted in preparing documentation for several technical activities. I actively participated in team discussions, collaborated on engineering prototypes, and provided on-site support during campus-level competitions.
- **Non-Robotics Coordinator** Dec 2022 – Dec 2023
My responsibilities expanded to include leading the registration and compliance process for external competitions, preparing documentation, and ensuring that all required materials, such as technical reports and electrical schematics, met competition standards. I also worked closely with the electronics division to coordinate system integration and testing before deployment.
- **Advisor** Dec 2023 – Dec 2024
In this role, I provide ongoing mentorship to junior members and serve as a consultant for strategy formulation, design documentation, and hardware validation. My advisory position includes evaluating project feasibility and ensuring knowledge transfer to maintain the sustainability of ongoing robotics initiatives.

INDONESIAN ROBOT CONTEST (Indonesian Thematic Robot Contest)

- **Programmer** Nov 2021 – Nov 2023
I developed control algorithms for both autonomous and manually operated robots. I also handled sensor integration and motor control using Arduino, with particular focus on robots operated via PlayStation controller. Additionally, I implemented serial communication protocols and designed remote interfaces for wireless operation.
- **Head of Division & Electrical** Nov 2023 – Nov 2024
In this capacity, I managed the team's competition strategies and oversaw the design and implementation of electronic systems for the robot. I led troubleshooting efforts, conducted performance evaluations, and provided technical direction to ensure the robot functioned effectively during contests.

PROJECT

- **SMARTY V2 – Programmer** Aug 2022 – Nov 2022
SMARTY V2 is a smart security system designed to be installed on vehicles such as motorcycles. As the programmer, I was responsible for implementing control logic, sensor integration, and system response protocols for theft detection and notification.
- **MEDLINK SMART V1 – Electrical** Oct 2024 – Dec 2024
This project focused on developing an early version of a health monitoring system, where I handled the electrical configuration of sensors that measured body temperature and blood pressure. The system was designed for initial testing in a clinical environment.
- **MEDLINK SMART V2 – Electrical & Programmer** Mar 2025 – May 2025
MEDLINK SMART V2 evolved into a more comprehensive health monitoring device capable of measuring four vital signs: body temperature, blood pressure, SpO2, and heart rate. Additionally, it features an infusion monitoring module. I contributed as both the electrical system designer and programmer, developing the system to communicate data through a web-based monitoring platform.

CERTIFICATIONS & AWARDS

- Gold Medal – World Young Inventors Exhibition, Malaysia | 2025
- Silver Medal – UMS International Innovation Day | 2024
- 1st Place – Line Follower Robot Competition at Tech Enthusiast Day UGM | 2023
- 2nd National Winner – Indonesian Thematic Robot Contest at ITS | 2022
- 3rd Regional Winner – Indonesian Thematic Robot Contest at ITS | 2022
- Regional Honorable Mention – Indonesian Thematic Robot Contest at Semarang University | 2023
- Registered Intellectual Property (Copyright) – Smarty V2 | 2022

TECHNICAL SKILLS

- **Software:** Arduino IDE, Autodesk Inventor, AutoCAD, ETAP, Visual Studio Code, Microsoft Office, EasyEda
- **Personal Traits:** Responsible, Honest, Disciplined, Strong Individual and Team Collaboration
- **Programming:** C/C++, CX-Programmer, Python, PLC (Programmable Logic Control)
- **Languages:** Indonesian (fluent), English (basic conversational; willing to improve)

ADDITIONAL INFORMATION

- Willing to attend on-site interviews
- Open to relocation and full-time placement
- Committed to contributing to technological innovation in the industrial sector