

Muhammad Kholish

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Summary

I'm an electrical engineering graduate and an active IoT enthusiast. Passionate about transforming curiosity-driven ideas into impactful projects. Graduated with a GPA of 3.69, I build hands-on prototypes using ESP32 and Arduino, focusing on embedded firmware, and IoT telemetry. I've developed educational demo rigs and delivered practical training on PLC/HMI and embedded systems. Debugged hardware issues, refined prototypes for improved performance, and collaborated on automation and IoT projects to deliver innovative solutions. Demonstrated a strong ability to rapidly acquire new technologies and successfully complete projects both independently and as an effective contributor within multidisciplinary teams.

Work Experience

PT Performa Bisnis Utama – Depok, West Java

Freelance Technician

Jan 2025 – Oct 2025

- Deliver practical Internet of Things (IoT) and Machine Learning (ML) projects from ESP32 firmware and HTTP or MQTT-based telemetry to on-device ML for voice/keyword recognition.
- Build and maintain educational demonstration rigs (including Omron PLC + HMI and microcontroller prototypes)
- Provide hands-on training to vocational schools, universities, and industrial staff to ensure smooth adoption and long-term reliability.

PT Performa Bisnis Utama – Depok, West Java

Educational Demonstration

Sep 2024 – Dec 2024

Technician (Intern)

- Deliver hands-on vocational training and developed educational demonstration equipment.
- Taught basic Omron PLC programming and HMI design to vocational school students, built and tested PLC and microcontroller-based demo rigs, authored lab procedures and troubleshooting guides, and supported teachers during classroom handovers to improve practical learning outcomes.

Skills

- **Hard Skills** : Microcontroller programming (ESP32 and Arduino), embedded firmware, Internet of Things telemetry, PLC and HMI programming, sensor and actuator integration, electrical wiring.
- **Soft Skills** : Fast learner, critical thinking, problem solving, training others, eager to learn, multidisciplinary team contribution.
- **Tools** : Microsoft Office, Arduino IDE, Visual Studio Code, PlatformIO, Fritzing, CX-Programmer, CX-Designer.

Education

Universitas Muhammadiyah Jakarta

Electrical Engineering

Sep 2021 – Aug 2025

(Industrial, Electronics, and Control)

- Achieved an average GPA of 3.69 out of 4.00
- Thesis research with the topic "smart building control and monitoring prototype" by integrating several sensors and actuators with a microcontroller, sensor data sent via MQTT to a PHP and MySQL based web dashboard.
- Actively working on IoT or embedded projects independently or in a team, sensor actuator integration, hardware troubleshooting and debugging.
- Authored and published papers as a team leader and delivered presentations as a seminar speaker.

SMA Negeri 12 Kota Bekasi

Science

Jul 2018 – May 2021

- Achieved an average grade of 87 out of 100.