

MUHAMMAD AL-GHAZALI

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Padang,Sumatera Barat

Electrical Engineering graduate with a GPA of 3.61/4.00, with strong interests and competencies in Electrical Engineering, Mechatronics, industrial automation, control systems, Internet of Things (IoT), programming, system integration, electrical installation and wiring, and 3D mechanical design. Skilled in designing, developing, testing, troubleshooting, and implementing electronic, mechanical, and automation systems for industrial and engineering applications. Demonstrates strong technical problem-solving, attention to detail, and a commitment to developing effective engineering solutions.

Education

Politeknik Negeri Padang (PNP) - **Padang** Aug 2022 - Sep 2026

D4 in Electrical Engineering, 3.61/4.00

- GPA : 3.61/4.00
- Project : NEWS2-Based IoT Vital Sign Monitoring System,PLC-Based Dual-Axis Solar Tracking System,IoT Smart Watering and Plant Monitoring System,IoT-Based Automatic Antenna Rotator,Industrial Automation and Instrumentation Systems,Mechanical CAD and SolidWorks Design Projects,Autonomous Line Follower Robot.

Research Assistant in Politeknik Negeri Padang Feb 2026 - Jul 2026

Research Assistant in Faculty Research Team

- Contributed to the development and implementation of an IoT-based multiparameter monitoring research project.
- Participated in prototype development, experimental testing, data analysis, and research documentation.
- Collaborated with faculty members in preparing research reports and scientific publication materials.

Internship

VMES 4.0 – PT. Vortex Energy Batam - **Batam,Kepulauan Riau** Aug 2025 - Jan 2026

Mechatronics Engineer

- Performed mechanical and electrical assembly for Cartridge Ink Cell, UV Coating Machine, Roller Machine, and MES training systems based on engineering drawings and wiring diagrams.
- Performed PLC, servo drive, inverter, relay, sensor, power, and I/O panel wiring, including pneumatic system installation.
- Performed corrective actions, re-wiring, component replacement, connectivity checks, and final inspections to ensure machine operation complied with engineering specifications.

TELKOMSEL (MSIB BATCH 7) - **Pekanbaru,Riau** Sep 2024 - Dec 2024

Network Deployment and Operation

- Supported BTS Quality Control and tower audits, including KPI, availability, alarms, antennas, RRU, feeders, power systems, and grounding inspections.
- Developed a Customer Complaint Management (CCM) dashboard to monitor complaint trends, MTTR, root causes, availability, capacity, coverage, and transport issues.
- Developed an ESP32 and Blynk IoT-based automatic antenna rotator prototype for remote sector antenna positioning.

Organisational Experience

UKM ROBOTIK PNP - **Padang** May 2023 - Feb 2024

Leader of Public Documentation

- Led and coordinated the Publication and Documentation team, including task delegation, work planning, and execution for organizational programs, competitions, and events.
- Managed end-to-end documentation and publication activities, ensuring team deliverables, event coverage, and communication materials were completed effectively and on schedule.
- Collaborated with other divisions and supervised team members to support event promotion, organizational communication, and successful program execution.

UKM ROBOTIK PNP - **Cadiak Pandai Team (Robot ABU Robocon) PADANG** Feb 2023 - Feb 2024

Member Team

- Designed robot mechanical components using SolidWorks.
- Contributed to robot fabrication, assembly, programming, testing, and troubleshooting.

- Developed embedded control programs using C/C++ and Arduino IDE.
- Supported technical documentation and regional competition preparation.

Achievments,Projects,Skills

- **Achievements** ✅ (2025): Internship in PT VMES 4.0
- **Achievements** ✅ (2024): MSIB BATCH 7 (Internship in Telkomsel)
- **Activities** ✅ (2023): Publication and Documentation Division – Minangkabau Robotic Contest (MRC) VII
- **Projects** (2026): IoT-Based NEWS2 Vital Sign Monitoring System | Mechanical CAD & 3D Engineering Design Projects
- **Projects** (2025): PLC-Based Dual-Axis Solar Tracker
- **Projects** (2024): IoT Smart Watering & Plant Monitoring System | IoT-Based Automatic Antenna Rotator
- **Projects** (2023): Industrial Automation & Instrumentation Systems | ABU Robocon Robotics Development Project
- **Training** ✅ (2024): Character Development Training
- **Mini Bootcamp** ✅ (2024): Mini Bootcamp: Web Development for Beginner
- **Mini Bootcamp** ✅ (2024): Introduction to IoT
- **Webinars** ✅ (2023): Automation PLC Omron
- **Webinars** ✅ (2023): IoT Careers 101 : Introduction to IoT Developer Career
- **Hard Skill**: Electrical & Electronic Systems | Industrial Automation & PLC | IoT & Embedded Systems | Programming & Control Systems | Electrical Wiring & Troubleshooting | Sensor Integration & Instrumentation | 3D CAD & Technical Drawing | Data Acquisition & Analysis
- **Soft Skills**: Problem Solving | Analytical Thinking Teamwork | Technical Communication | Adaptability |Time Management | Continuous Learning
- **Tools**: (C++,Visual Studio Code,Python,Javascript,Arduino IDE)Solidwork,basic Autocad,CX-Programmer,LOGO Siemens, Microsoft Office(Ms Word,Ms PowerPoint,Basic Ms Excel & Power BI),Canva
- **Language**: Indonesia,Inggris(Intermediate)