

MUHAMMAD AL GHAZALI

PORTFOLIO



 m.alghazali2912@gmail.com

 [linkedin.com/in/muhammad-al-ghazaliyyy](https://www.linkedin.com/in/muhammad-al-ghazaliyyy)

Electrical & Electronics Engineer
• Mechatronics • Industrial
Automation • IoT & Embedded



ABOUT ME

Hello, I'm Muhammad Al-Ghazali

I am an Electrical Engineering graduate from Politeknik Negeri Padang with a strong interest in Mechatronics, Industrial Automation, Internet of Things (IoT), Embedded Systems, and Control Systems.

I have hands-on experience in electrical and mechanical assembly, PLC-based automation, embedded systems, IoT development, mechanical CAD design, system testing, and troubleshooting.

I am passionate about combining hardware, software, and automation to develop practical and reliable engineering solutions.

Education

Diploma IV in Electrical Engineering

GPA : 3.61 / 4.00

Career Interest

Automation • Mechatronics • IoT •
Embedded Systems

Technical Skills

Electrical & Electronics

Electrical Wiring • Electronic Systems • Instrumentation • Troubleshooting

Industrial Automation

PLC • Sensors • Actuators • Relays • Inverters • Servo Systems

IoT & Embedded Systems

ESP32 • Arduino • MQTT • Wi-Fi • BLE • Sensor Integration Programming

C/C++ • Arduino IDE • Embedded Programming

Mechanical Design

3D Modeling • Assembly Design • Technical Drawing

Soft Skills

Problem Solving | Analytical Thinking Teamwork | Technical Communication | Adaptability | Time Management | Continuous Learning

Tools



AUTOCAD



Power BI



SKILLS & TOOLS

INTERNSHIP EXPERIENCE

MECHATRONICS ENGINEER IN PT VMES 4.0

Worked on the mechanical and electrical development, assembly, commissioning, and troubleshooting of industrial machines and manufacturing training systems.

NETWORK DEPLOYMENT & OPERATION IN TELKOMSEL MSIB BATCH 7

Supported telecommunications network deployment, quality control, network performance analysis, BTS infrastructure inspection, and engineering innovation activities.



INTERNSHIP PT VMES 4.0

Batam, Indonesia | August 2025 — January 2026

MECHATRONICS ENGINEER

Mechanical & Electrical Assembly

Assembled Cartridge Ink Cell 5 & 7, UV Coating Machine, Roller Machine, and MES training systems based on engineering drawings and wiring diagrams.

Industrial Electrical Wiring

Performed wiring for PLC panels, servo drives, inverters, relays, sensors, power circuits, and I/O systems.

Pneumatic Systems

Installed and integrated pneumatic components into industrial machine systems.

Commissioning & Troubleshooting

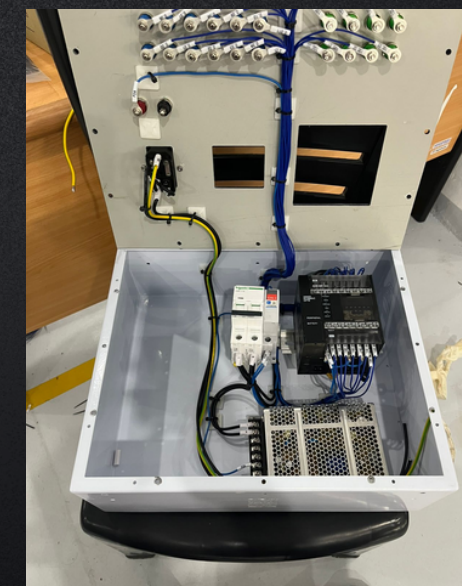
Diagnosed mechanical and electrical issues including actuator problems, coupling slips, component mismatches, connector issues, and missing wiring.

Corrective Action & Inspection

Performed re-wiring, component replacement, connectivity checks, and final inspections to ensure machines operated according to engineering specifications.

TECHNOLOGIES / SKILLS

PLC | SERVO DRIVE | INVERTER | SENSORS | ELECTRICAL WIRING | PNEUMATICS | TROUBLESHOOTING | MECHANICAL ASSEMBLY



INTERNSHIP TELKOMSEL (MSIB BATCH 7)

Pekanbaru, Indonesia | September — December 2024

NETWORK DEPLOYMENT & OPERATION

Network Deployment

Supported new infrastructure deployment from site validation, CAPEX preparation, construction, equipment installation, site on-air, to network performance monitoring.

Network Quality Control

Monitored KPI, availability, packet loss, alarms, antenna status, and other network parameters.

Drive Test & RF Analysis

Performed network measurements using Nemo Handy and analyzed results using Nemo Analyze to identify coverage and signal-quality issues.

BTS Tower Audit

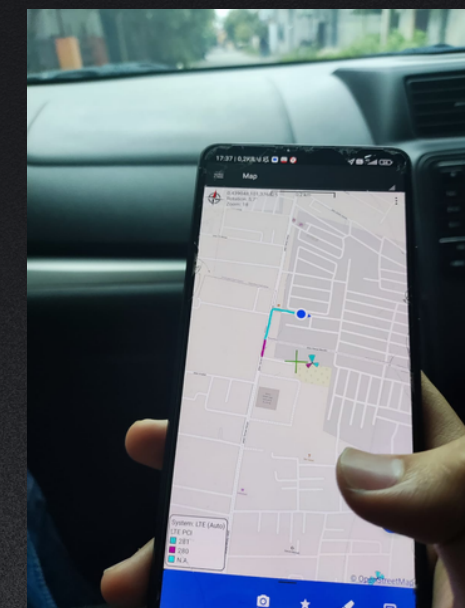
Inspected radio equipment, antennas, RRU, feeders, electrical power systems, grounding, and backup power systems.

Data Visualization

Developed a Customer Complaint Management dashboard to monitor MTTR, root cause, availability, capacity, coverage, transport, and hardware issues.

IoT Innovation

Developed an ESP32 and Blynk-based automatic antenna rotator prototype for remote sector antenna positioning.



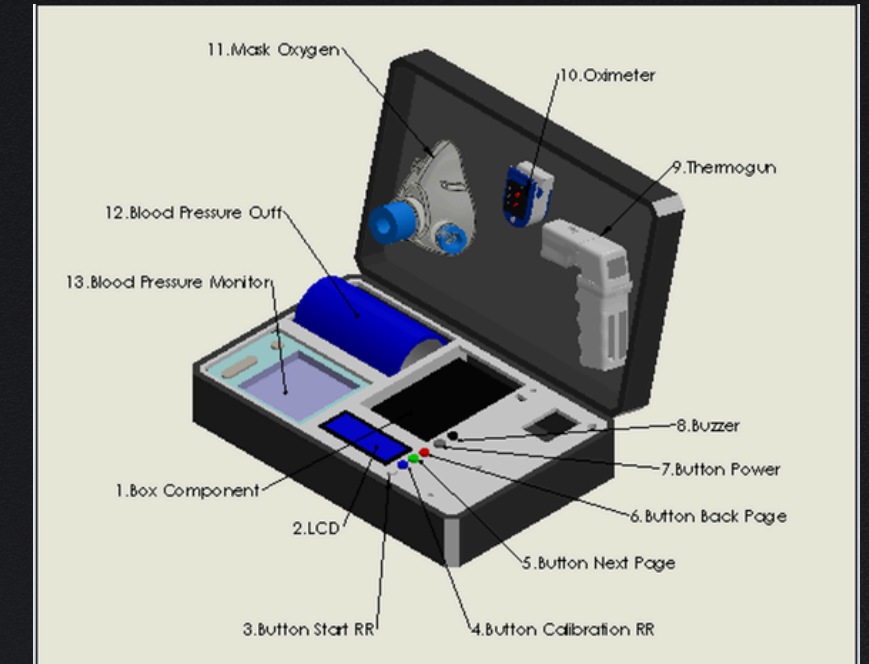
TOOLS & TECHNOLOGIES

NEMO HANDY | NEMO ANALYZE | ESP32 | BLYNK | POWER BI | NETWORK MONITORING | IOT

01) NEWS2-Based IoT Vital Sign Monitoring System

IoT • ESP32 • MQTT • Medical Sensors • Web Dashboard

Developed a multiparameter vital-sign monitoring system integrated with NEWS2-based risk assessment for real-time patient monitoring.



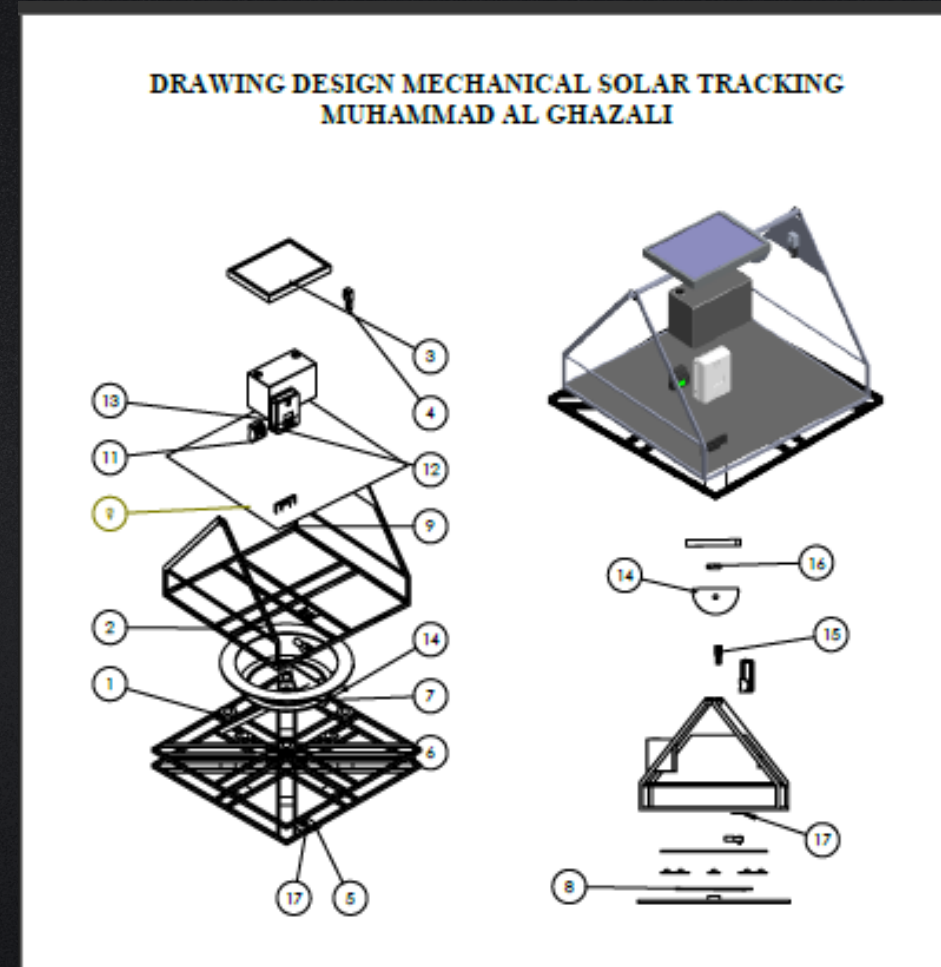
PROJECT



02) PLC-Based Dual-Axis Solar Tracker

PLC • Sensors • Motor Control • Automation

Developed an automated dual-axis solar tracking system using PLC-based control and light sensing.



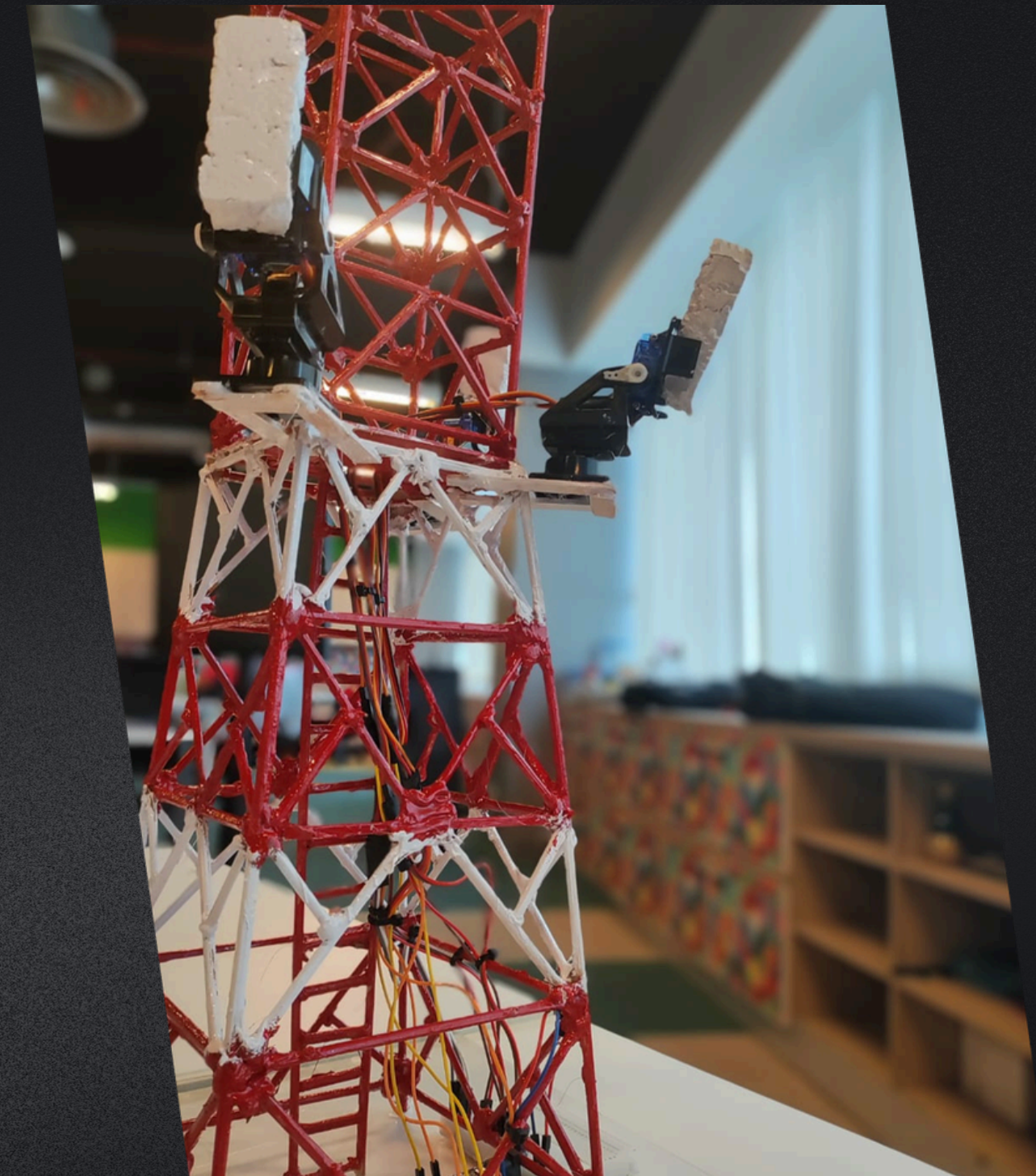
03) IoT-Based Automatic Antenna Rotator

ESP32 • Blynk • IoT • Motor Control

Developed a prototype for remotely controlling sector antenna orientation through an IoT platform.



PROJECT

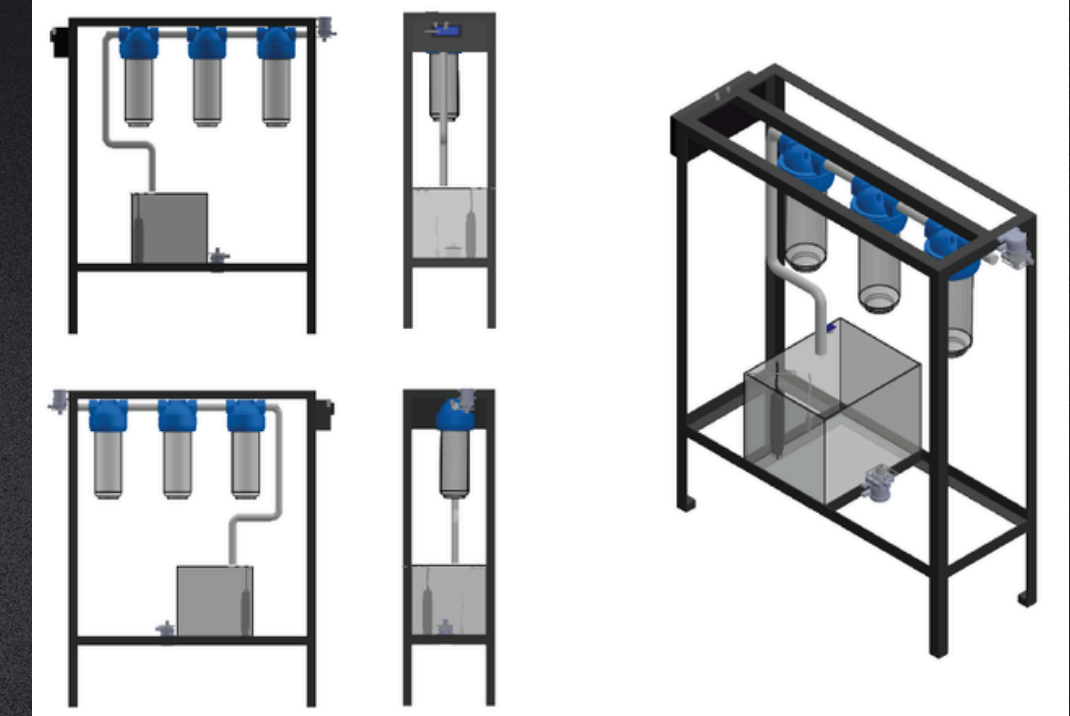
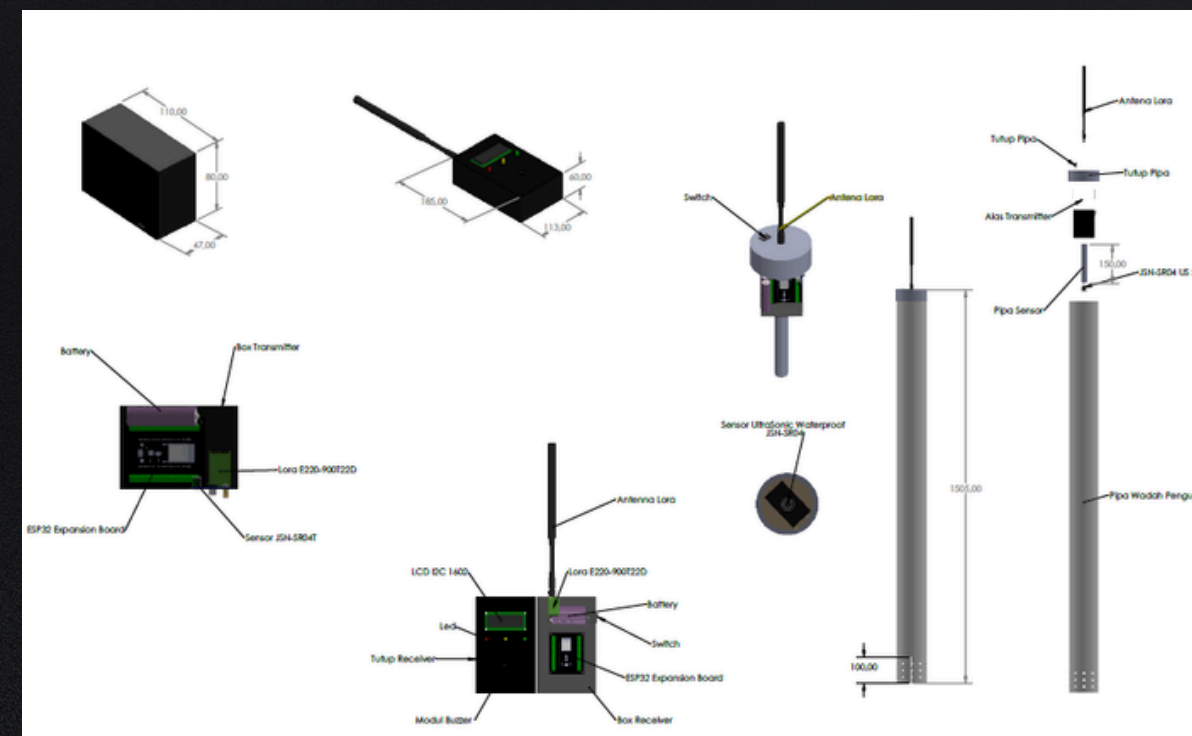
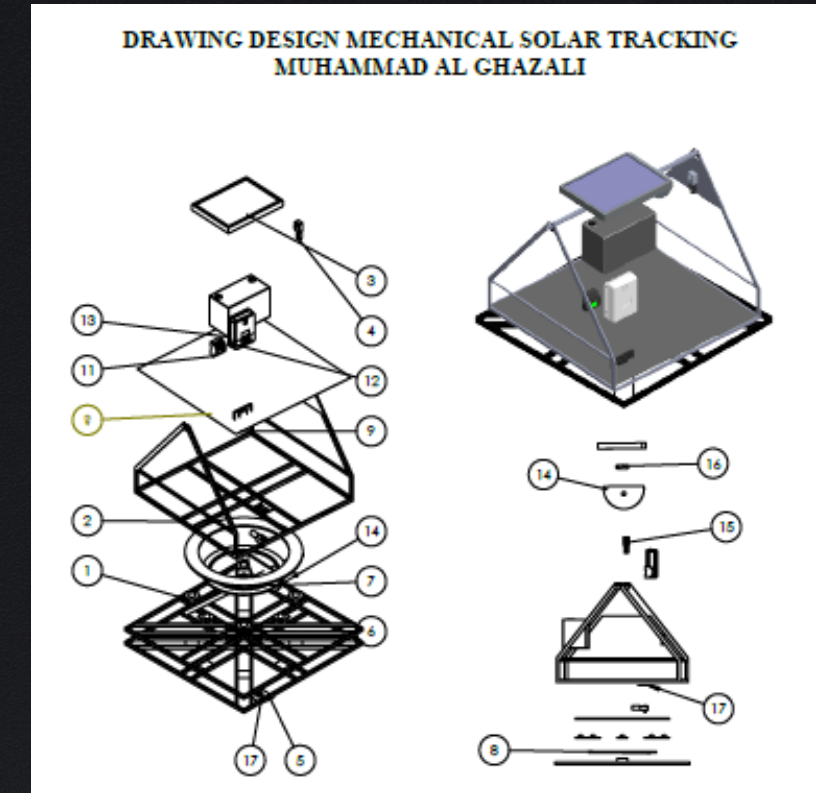
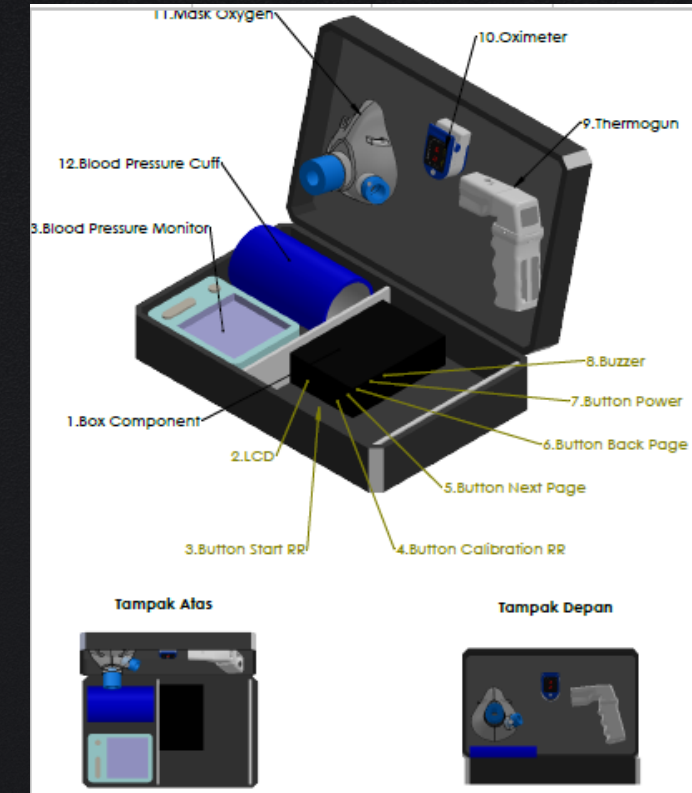
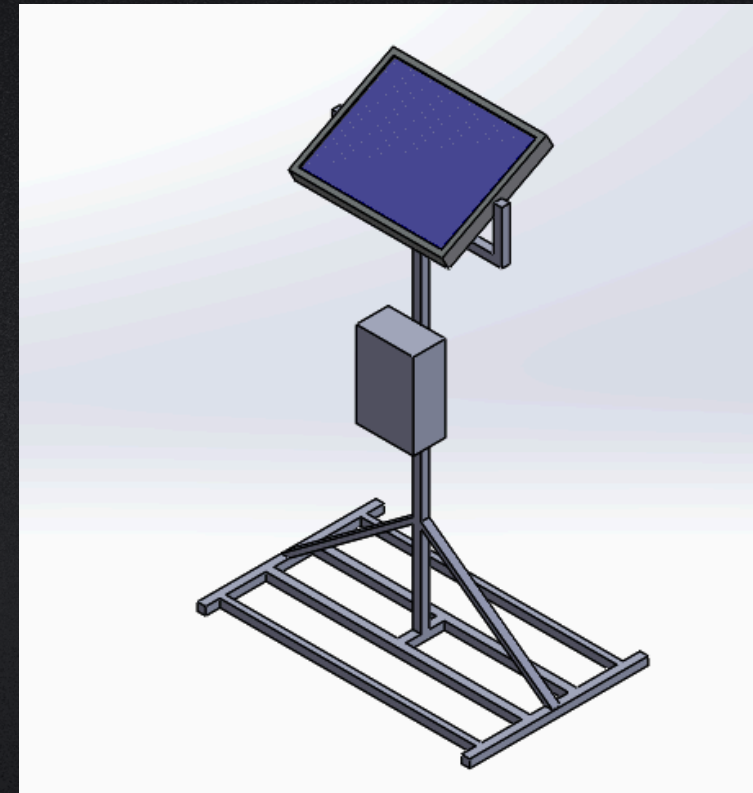
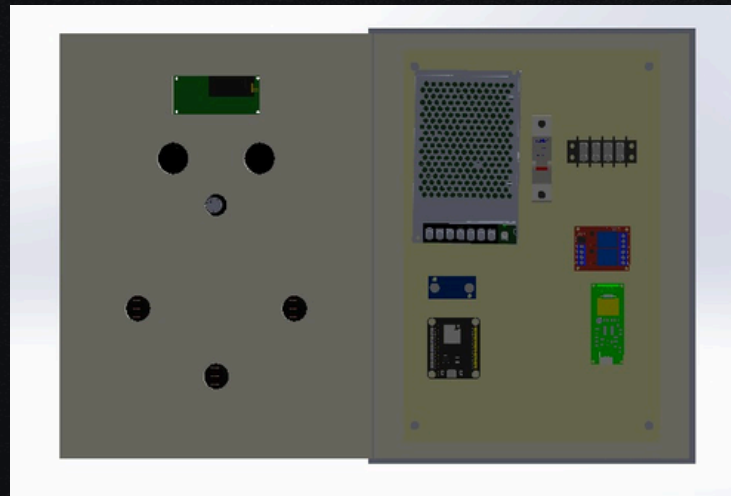


PROJECT

Mechanical CAD & 3D Engineering Design

SolidWorks • AutoCAD • 3D Modeling • Technical Drawing

Created mechanical components, assemblies, prototypes, and engineering drawings for various projects.



ORGANIZATION

ABU Robocon | Cadiak Pandai Team
UKM Robotik | Politeknik Negeri Padang
2023 — 2024

Contributed to the development of competition robotics systems through mechanical design, fabrication, embedded programming, testing, and troubleshooting.

Mechanical Design

Designed robot components using SolidWorks.

Robot Development

Supported fabrication and mechanical assembly.

Programming

Developed embedded control programs using C/C++ and Arduino IDE.

Testing

Participated in robot testing and troubleshooting.

Highlights

- *KRAI Regional Competition Participant — 2024*
- *Publication & Documentation Committee — Minangkabau Robotic Contest VII — 2023*



INTERNSHIP



TRAINING



MINI BOOTCAMP

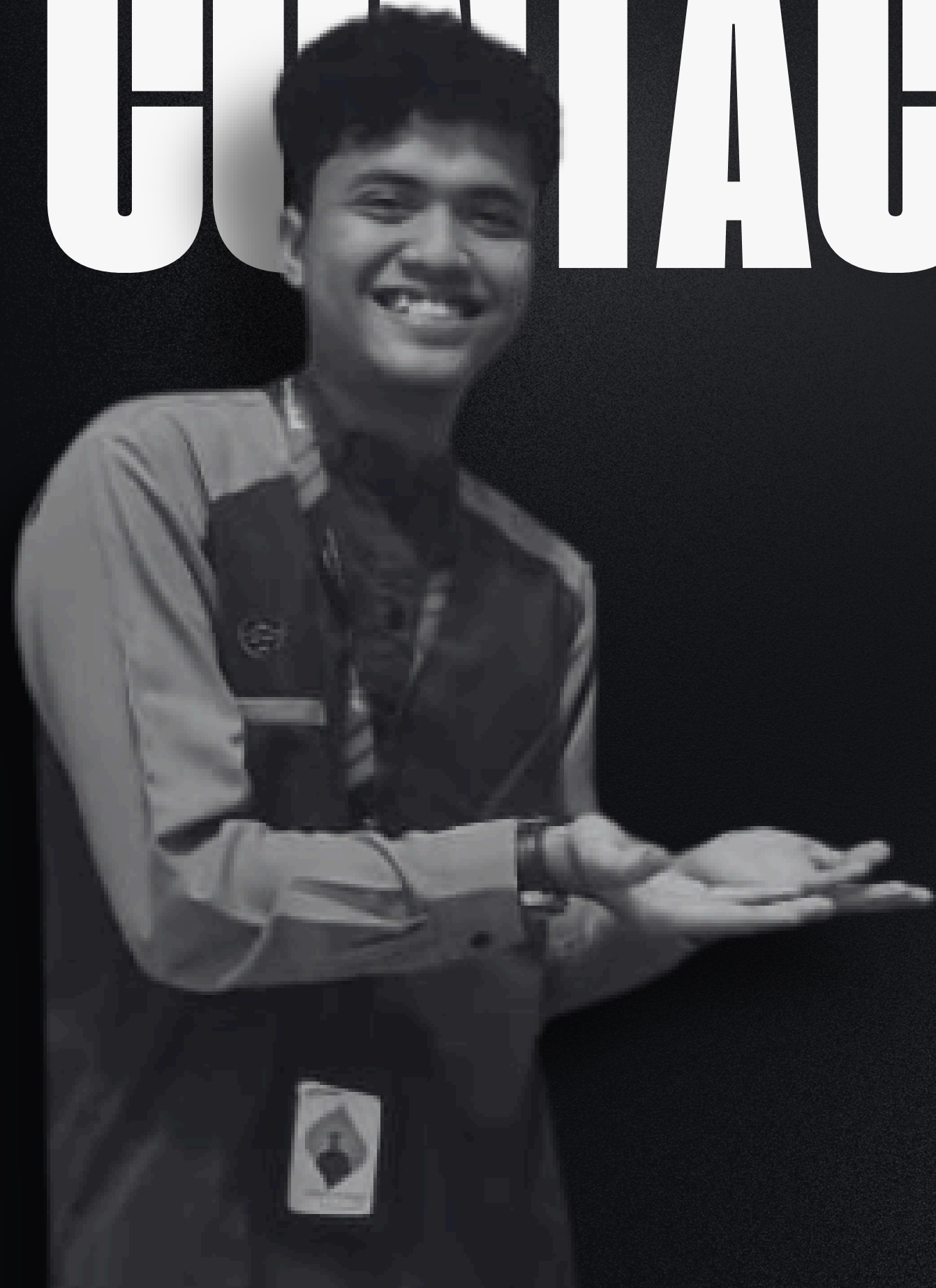


WEBINAR



PORTFOLIO

CONTACT ME



Linkedin

[linkedin.com/in/muhammad-al-ghazaliyyy](https://www.linkedin.com/in/muhammad-al-ghazaliyyy)

Email Address

m.alghazali2912@gmaiil.com

Phone Number

+62 82284720341

Instagram

@al_ghazaliyy

THANK YOU