MUHAMMAD REVAL

Bachelor of Engineering – Andalas University

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Professional Summary

A recent graduate in Electrical Engineering from Andalas University with a strong interest in project management. Experienced in managing laboratory operations, conducting research, and developing practicum modules, as well as working on several prototyping projects during college. Skilled in Research and Development, with experience leading a nationally funded project through the Student Creativity Program. Highly interested in low-voltage instrument development, particularly in embedded systems, IoT, and RF design. Proficient in Arduino and ESP32, with intermediate skills in Raspberry Pi, WinBox, Packet Tracer, and CST Studio Suite. Strong team player with excellent collaboration, cross-functional teamwork, and problem-solving abilities.

Education

Bachelor of Electrical Engineering, Andalas University 2021 – 2025

- Current GPA: 3,58/4.00 (158 credits)
- Concentration: Telecommunication

Intern Experience

Network Engineer Intern, PT. Carano Integrasi Teknologi Sept – Oct 2024

- Conducted quality of service assessments at 3 client sites across 100+ network nodes, identified technical issues, and provided solutions through reports.
- Assisting the maintenance engineer in maintaining routers at 1 client site, and recording and reporting client issues to the network engineer

Organization Experiences

Assistant Coordinator, Telecommunication Laboratory Feb 2024 – Feb 2025

- Led and supervised 10+ assistants, ensuring 100% practicum sessions ran efficiently and managed scheduling, delegation, and evaluation of activities.
- Conducted strategic planning and evaluation for laboratory development and educational agendas, and acted as the point of contact for both academic staff and practicum participants.

Laboratory Assistant, Telecommunication Laboratory Nov 2022 – Feb 2025

- Assisted in delivering 4 practicum courses and supported 80+ students to do practicum.
- Planning and executing the development and improvement of 3 practicum modules through research.

Broadcast Coordinator, Electrical Workshop Sept 2024 – Sept 2025

- Support 1 project management for lecture community service through building and designing a system, specifically on IoT for the project, and served as a group training facilitator, providing guidance and assistance to participants during practical sessions.

General Member, Himpunan Mahasiswa Teknik Elektro (HMTE) FT-UNAND May 2023 – May 2025

- Strengthened communication skills through active engagement with lecturers, alumni, and senior members.
- Contributed to the planning and execution of events to foster solidarity among members.

Information and Communication Staff, Engineering Research and Development Club Mar 2023 – Mar 2024

- Conduct organization media design, share information about the scientific writing competition, and support students who join the writing competition.

Honor & Awards

Funded Innovation Project PKM-KC 2024, Kemendikbudristek 2024

Ophtalspot: A Diagnosis System for Complications in the Eye Fundus Post-Cataract Surgery Based on Ensemble Learning and IoT

Funded Innovation Project PKM-KC 2023, Kemendikbudristek 2023

D'Kortisol: Stress Detection System Through Saliva with Differential Pulse Voltammetry Method Based on Machine Learning Integrated with IoT.

Funded Research Project PKM-RE 2023, Kemendikbudristek 2023

Mathematical Modeling of Drone Trajectory for Rapid Mapping of Areas using Minimum Bounding Rectangle Algorithm.

Course and Certification

MikroTik: MikroTik Certified Network Associate (MTCNA)
TOEFL: Prediction (Score: 487)
Dicoding Academy: Fundamentals of Data Visualization, Fundamentals of Git and Github**,** Fundamentals of Python
Coursera: Technical Support Fundamentals by Google, The Bits and Bytes of Computer Networks by Google
Creative Station: Exploration ESP32 for IoT
Cisco Networking Academy: Networking Basics, Networking Devices, and Initial Configuration

Project Experiences

Dielectric Sensor for Ethanol Concentration based on Microstrip Antenna – Final Project 2025
Designed and prototyped a microstrip rectangular patch antenna with spurline modification to optimize electric field distribution for improved ethanol sensing, and Integrated a microfluidic test chip made of PMMA and PVC rigid, achieving enhanced measurement accuracy for ethanol concentration.

Ophtalspot – PKM KC 2024 2024
Contributed to developing a diagnostic instrument for detecting glaucoma using the main component, Raspberry Pi 4, LCD, and Arducam. Code in Python with cloud processing using Colab, using ensemble learning for several CNN models to boost the accuracy of the final result on pre-project (budgeting, design planning, time management planning, material choosing, etc), on-project (instrument assembling, system implementation, presentation, and report preparation), and post-project (result reporting and presentation, and evaluation)

Early Warning System for Flash Flood – Community service 2024
Contribute to the development of a flash flood early warning system in Bukik Batabuah using ESP32, LiDAR, 4G modem, MPPT solar power, and IoT integration, enabling real-time monitoring and alerts via Telegram. The system includes anti-theft features (PIR sensor, CCTV, and horn) to ensure reliability for the community.

Terrarium Environment Monitoring Prototype – Practicum Project 2024
Built a real-time terrarium monitoring system with Arduino Nano (TX) and Arduino Uno (RX) through UART to learn project management in college by implementing five sensors (LDR, MQ135, soil moisture, touch, DHT22), LCD, and actuators (ultrasonic mist maker, fan, solenoid valve, servo, door lock) for automated environmental balance.

D'Kortisol – PKM KC 2023 2023
Contribute to designing a stress detection device using saliva samples with Differential Pulse Voltammetry and Machine Learning through UI/UX design application, and build an Android application for the project, and integrate ESP32 with Screen-Printed Electrode sensor and connect results to a spreadsheet via AppScript for IoT-based monitoring. Also contribute to report and presentation preparation, and the post-project report and presentation

Publication

Mathematical Modeling of Drone Trajectories for Rapid Mapping of Areas Affected by Volcanic Eruption Ash as A Disaster Management Effort 2024
- DOI: *doi.org/10.1063/5.0243233*

Skills & Competencies

Leadership & Management: Team Coordination & Supervision, Strategic Planning & Evaluation, Project & Event Management
Analytical & Organizational Skills: Time Management, Research & Data Analysis, Educational Program Development.
Basic Electrical: PCB Design (Eagle), Soldering, circuit design(filter, oscillator, amplifier, attenuator, etc).
RF Design: CST Studio Suite (EMF CAD), Operating VNA
Computer Network: Winbox, Cisco Packet Tracer, VM, Networking Basic (Routing, IP, VPN, Firewall, Interface config, etc).
IoT and Embedded System: API Management, Wireless Network, ESP32, Raspberry Pi, Long Range (LoRa), Sensor, Arduino
Programming: C++ (for Embedded Systems), Python (Scripting, Data science, and visualization), JavaScript (Front End)
Office: Microsoft 365, Google Workspace.