

MUHAMMAD REVAL, S.T.

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Summary

Electrical Engineering graduate with hands-on experience in IoT and Embedded Systems development. Skilled in full system development, including concept creation, system design, schematic wiring, PCB layout, API integration, Sensor Design, and functional prototyping. Proficient in C++ and Python for device programming and data processing. Experienced in developing systems powered by photovoltaic energy sources and familiar with Arduino, ESP32, Raspberry Pi, and LoRa communication modules. Possesses strong analytical thinking, communication, and teamwork abilities, with adaptability in dynamic work environments. Highly motivated to grow a career in Electrical Engineering, Electronic Engineering, IoT System Development, Embedded System Engineering, or other related fields.

Skills and Competencies

Soft Skills: Teamwork and collaboration, leadership, community service orientation, problem-solving and analytical thinking, communication skills, adaptability and fast learning, project planning and management, research and documentation skills, mentoring and teaching

Technical Skills: Wireless network troubleshooting, embedded systems programming (Arduino, ESP32, IoT integration), C++ and Python programming, PV energy systems (solar PV, MPPT, inverter, site planning), Sensor Design, 3D CAD, IoT and remote monitoring (Telegram-based, sensors, alarms), Linux, Figma, Canva, network data analysis and reporting (throughput, delay, jitter, QoS assessment), Basic Electrical (Measurement Instrument, Soldering, etc), PCB Design (KiCad, Eagle, Proteus), Networking Basic, Cisco and Mikrotik Configuration.

Language: English(Upper Intermediate), Indonesia

Work Experience

Electrical Engineering Department FT-UNAND,
Academic Lecturer Assistant,

Padang, West Sumatra
Sept 2025 – Nov 2025

- Assisted in the microstrip antenna design process, including analytical calculations, 3D CAD design, electromagnetic simulations, antenna fabrication, and documentation of each design stage.
- Assisted with the research by preparing the conference draft paper.

PT. Carano Integrasi Teknologi,
QoS Network Assessor - internship,

Padang, West Sumatra
Sept – Oct 2024

- Conducted service quality assessments at 2 hotels and 1 hospital with 100+ Wireless Access Points,
- Audited the throughput, delay, and jitter, and performed channel mapping to each node to identify slow network problems and technical issues, also delivered solutions through reports.
- Supported maintenance engineers in router servicing and troubleshooting activities.

Education

Electrical Engineering, Universitas Andalas,
GPA: 3,58/4.00

Aug 2021 – July 2025

Undergraduate Thesis: *Design of a Rectangular Microstrip Patch Antenna with Spur-Line as an Ethanol Concentration Sensor Using a Non-Contact Microfluidic Method*

Achievements

Winner Funded and Poster Finalist on Project Pekan Kreativitas Mahasiswa-Karsa Cipta 2024 by Kemendikbudristek

Developed a GUI for device control using Tkinter on Raspberry PI, integrated IoT functionality, and designed a web app with Firebase to ensure effective project prototyping, and prepared comprehensive project documentation.

Winner Funded Project Pekan Kreativitas Mahasiswa-Karsa Cipta 2023 by Kemendikbudristek

Developed an Android Application using Kotlin for the instrument name DKortisol, and integrated the instrument with a Spreadsheet using AppScript as a database.

Research Paper

Author on Conference Paper: *Mathematical Modeling of Drone Trajectories for Rapid Mapping of Areas Affected by Volcanic Eruption Ash as A Disaster Management Effort* (International Conference on Mechanical Engineering For Emerging Technologies (ICOMEET), 2023)

Organization Experience

Assistant Coordinator, Telecommunication Laboratory FT-UNAND, Feb 2024 – Feb 2025

- Successfully managed and supervised a team of 13 assistants, ensuring all practicum sessions ran efficiently.
- Acted as a key liaison between lecturers, academic staff, other assistants, and over 200 practicum participants, improving communication and coordination.

Laboratory Assistant, Telecommunication Laboratory FT-UNAND, Nov 2022 – Feb 2024

- Assisted in the optical fiber network practicum that involved troubleshooting tools such as OTDR, OPM, VFL, and cabling tools & materials such as cliffer, closure, passive splitter, and mechanical & fusion splicer.
- Assisted in the implementation of 4 different practicum, such as a computer network and wireless fidelity practicum that involved hands-on Mikrotik device configuration,
- Develop and improve the Computer Network, Wireless Fidelity(Wi-Fi), Long Range(LoRa), and 2 more practicum modules.
- Supporting over 200+ students during sessions. Served as a study mentor for 30+ students in college for the microstrip antenna design, communication system, and signal and system classes

Division Coordinator, Electrical Workshop FT-UNAND, Sept 2024 – Sept 2025

Led the Electrical Workshop division in supporting a community flash flood Early Warning System project in Bukit Batabuah, overseeing IoT system design with ESP32 and Telegram, and guided participants through Arduino training sessions.

Information and Communication Staff, ERDC FT UNAND Mar 2023 – Mar 2024

Designed organizational media using Canva and created UI/UX designs with Figma for the organization's landing page. Shared information about the scientific writing competition and acted as a liaison between students and faculty participants.

Speaker and Volunteer Experience

Speaker at PKM & Personal Branding Training by FKI Rabbani UNAND (2025)

Speaker at PKM & Personal Branding Training by FKI Rabbani UNAND, sharing insights on PKM and strategies for building a strong team, and building a personal branding based on competition portfolio.

Community Service for Flash Flood in Nagari Bukik Batabuah (2024)

Supported community outreach, site surveys, and the design of an off-grid Early Warning System for flood-affected Bukik Batabuah, integrating solar power, CCTV, sensors, alarms, and 4G IoT monitoring via Telegram

Community Service for Renewable Energy Survey on the Koto Gadang Area (2024)

Supported community-based renewable energy surveying in Koto Gadang, evaluating wind and solar potential, and developing a demo LiFePO₄-based PV setup, along with site planning and budgeting for solar street lighting.

Certification

Professional Certificate – MTCNA (2025)

Language Certificate – EF SET English Certificate 59/100 (B2 Upper Intermediate) (2025)

– TOEFL Prediction (487)

Course Certification – Crash Course Python by Coursera (2025)

– ESP 32 Course by Creative Station

– FTTx Distribution & Open Platform by C-Data Technology (2025)

Reference

Ir. Hanalde Andre, M.T,

Lecturer at Andalas University

Universitas Andalas

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