ILHAM MAULANA

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EXECUTIVE SUMMARY

Fresh graduate in Electrical Engineering from Yogyakarta State University with a focus on Control System, Automation, and Computer Engineering. Experienced in the design and implementation of microcontroller-based systems and Internet of Things (IoT) solutions. Skilled in web application development and cloud-based systems to support monitoring and automation. Has internship experience at PT Industri Kereta Api (Persero) in the field of electrical system installation.

EDUCATION

Bachelor of Electrical Engineering, Yogyakarta State University Aug 2021 – Dec 2025

- GPA: 3.75/4.00 - Cum Laude
- Relevant Coursework: Internet of Things, Web and Database Programming, Microprocessor and Microcontroller, Machine Learning and Modeling, Process Control System.
- Thesis Title: "Development of a React.js-Based Web Application for Cross-Device File Transfer Using Hand Gesture Recognition with Tensorflow.js"

INTERNSHIP EXPERIENCE

Production, Electrical System Installation (Finishing), Oct 2024 – Dec 2024
PT. Industri Kereta Api (INKA)

- Installed railway electrical systems including wiring, cable cutting, parallel connections, and cable labeling in accordance with technical standards and electrical diagrams.
- Installed and protected cable routes on underframe and carriage interiors using manual and electric tools, and conducted quality inspections to ensure standard compliance.
- Installed power distribution panels, power outlets, Passenger Information Display System (PIDS), and cable harnesses to support reliability onboard electrical operation.
- Repaired electrical installations on the 612 New Generation train units, including cable connections, water flush sensors, and running text systems to improve system reliability.

Distinction Graduate, Cloud Computing Learning Path, Aug 2023 – Dec 2023
Bangkit Academy By Google, GoTo, Traveloka - MSIB Batch 5

- Completed 1 end-to-end capstone project integrating Cloud Computing, Machine Learning, and Mobile Development with a team within 2 months.
- Built and deployed cloud-native backend services using Google Cloud Run and core Google Cloud Platform (GCP) services to support application deployment.
- Developed web and backend application using JavaScript and Python, implementing RESTful APIs within a cloud-based architecture.
- Applied basic DevOps practices, including deployment, environment configuration, and cloud resource management, and participated in the Associate Cloud Engineer certification exam.

PROJECT EXPERIENCES

RFID Tag Monitoring Based Website May 2024 – Jun 2024

- Designed a Radio Frequency Identification (RFID) based monitoring system using ESP32, RC522 RFID module, and buzzer to automatically log tag data scan in real time.
- Implemented WiFi-based data transmission to a local server (XAMPP) and developed REST API (CRUD) to manage RFID tag records in a database.

- Built a real-time web dashboard to monitor tag RFID, demonstrating end-to-end IoT integration from hardware to database-driven web application.

Capstone Project - Culinaryndo Application Sep 2023 – Dec 2023
- Developed a culinary identification application to classify Indonesian cuisine based on regional origin, main ingredients, and unique characteristics.
- Implemented a Convolutional Neural Network (CNN) using MobileNet architecture trained on 9,000 food image datasets across 10 cuisine classes.
- Deployed the application using cloud computing services to enable scalable access and efficient system management.

DC Motor Speed Control Using Microcontroller Feb 2023 – May 2023
- Designed and implemented a Proportional–Integral–Derivative (PID) control system on Arduino Uno to regulate DC motor speed under varying conditions.
- Integrated speed sensor, motor driver, I2C LCD, and keypad to enable real-time monitoring and parameter adjustment.
- Evaluated control performance using Arduino Serial Plotter to analyze system response and stability.

Vehicle Speed Monitoring and Overspeed Warning System Based IoT Feb 2023 – May 2023
- Developed a vehicle speed monitoring system based on ESP32 using an IR sensors, I2C LCD, and buzzer to provide real-time overspeed warnings.
- Integrated ThingSpeak cloud platform for data logging and an Android application (Kodular) for remote speed monitoring.
- Implemented overspeed documentation using a Bluetooth camera module to support traffic monitoring and data collection.

ORGANIZATIONAL EXPERIENCES

Member, INFINITE Information Technology Division, Technology Engineering Nov 2022 – Dec 2024
- Developed interactive websites using HTML, CSS, and JavaScript, focusing on layout, interactivity, and user experience.
- Contributed to end-to-end web development, covering both frontend and backend components using modern web frameworks.
- Built 1 interactive movie website as a final project using React, demonstrating the ability to develop dynamic and responsive web applications.

Member, Swimming Club (UKM Renang) Nov 2022 – Nov 2023
- Actively participated in swimming training sessions three times a week to maintain physical fitness and endurance.

SKILLS, ACHIEVEMENTS & OTHER EXPERIENCE

- **Bahasa:** Indonesia (Native), English (Fluent)
- **Hard Skills:** Internet of Things, Web Development, Microcontroller, Control System, Cloud Computing, Machine Learning, Application Programming Interface (API), Debugging
- **Soft Skills:** Problem Solving, Growth Mindset, Leadership, Time Management, Critical Thinking, Teamwork, Adaptability, Resilience, Project Management
- **Software:** Visual Studio Code, Arduino IDE, ZelioSoft 2, CX-Programmer, FluidSIM, Proteus, MATLAB, Google Cloud Platform (GCP), Firebase, Supabase, XAMPP, Laragon, Microsoft Office (Word, Excel, PowerPoint)
- **Programming Languages:** JavaScript, TypeScript, Python, C++