



Muhammad Emir Al Hafidz

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PROFILE

A graduate in Electronics Engineering with strong skills in electrical and electronics systems, experienced in developing IoT projects and implementing efficient data communication to minimize data loss through the integration of MQTT, Kafka, and MySQL. Proficient in programming microcontrollers using C++ and building interfaces for data visualization with React.js and Node.js. Hands-on experience in troubleshooting electrical systems and practicing industrial automation control, including direct-on-line, forward-reverse, and star-delta configurations, using Omron and Schneider PLCs.

EDUCATION

Yogyakarta State University | GPA 3.71 / 4.00 Sleman, Yogyakarta
Bachelors Degree in Electronics Engineering 2020 – 2024
Skills: Fullstack IoT, PLC, PCB Design

Vocational High School 1 South of Tangerang Tangerang, Banten
Electrical Power Installation Engineering 2017 - 2020
Skills: Electrical Motor Installation, Troubleshooting, PLC

EXPERIENCES

Production Trainer - Intern Feb 2023 - Mei 2023
Schneider Electric Cikarang, West Java

- Assisted the production leader in arranging materials for trainee projects.
- Improved skills in quality control and troubleshooting electrical components.
- Enhanced knowledge in quality control and troubleshooting of electrical switchgear.
- Studied single-line diagrams for various Medium Voltage products.
- Developed PLC programming skills using SoMachine on Schneider devices.

Engineer Electrical - Intern Okt 2023 - Des 2023
PT. Jonastrik Global Automasi Sleman, Yogyakarta

- Built and implemented electrical components for conveyor production systems.
- Designed and tested hardware for ice maker systems.
- Provided maintenance support to client companies.

Quality Control- Intern Jun 2024 - Jul 2024
PT. Pustaka Insan Madani Klaten, Central Java

- Ensured product quality by conducting inspections at the client's workshop.

- Provided training to vocational high school teachers on using electrical trainer products.
- Resolved minor product issues at the client's workshop.

PROJECTS

Ground Control Station

Technologies: Apache Kafka, MySQL, React JS, Node JS, MQTT, Google Cloud Platform, Arduino.

- Developed a real-time monitoring system using Google Cloud Platform as the server.
- Built a data communication system with fast response time and low latency to ensure real-time monitoring.
- Minimized data loss during storage in the database for further analysis by integrating MQTT and Kafka.
- Designed an interface for data visualization using React.js and Node.js.

Realtime-Fish Pond Monitoring

Technologies: Arduino, Firebase, React JS

- Developed a real-time fish pond monitoring system using Firebase for deployment and real-time database storage, integrated with Arduino microcontrollers.
- Designed an interactive frontend to visualize water quality metrics.

Web-Based Attendance System Using RFID Card

Technologies: ESP8266, React JS, Node JS, MySQL

- This project involves an automatic attendance system using RFID cards as personal identifiers.
- Users simply tap their cards on a sensor to register attendance.
- Attendance data is automatically stored in the web-based system.

SKILLS

Programming : Kafka, MySQL, MQTT, React JS, Node JS, Tailwind CSS

Hardware & Tools : Arduino, PLC, Eagle PCB

Software : Microsoft Office, Proteus, Figma

Soft Skills: Team Collaboration, Technical Problem-Solving, Continuous Learning