

# M. IHYA' ULUMUDDIN

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He is an active student in the D3 - Electronics Engineering study program at Politeknik Negeri Semarang. Has a strong interest in the electrical field, especially in instrumentation and control systems, has direct experience in various electronics projects such as PLC, IoT projects, designing PCB (Printed Circuit Board), and becoming a Hardware Engineer in companies and freelance. Has a high desire to open the widest possible opportunity for himself to gain knowledge and improve his abilities in the electrical field.

## **EDUCATION**

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**Politeknik Negeri Semarang - Semarang, Indonesia** September 2022 – Present

**D3-Electronics Engineering (6<sup>th</sup> Semester)**

- **IPK** : 3.65 / 4.00
- **Relevan Coursework** : Programmable Logic Controller, Mikrokontroler, Sensors & Transduser, Instrumentation, Continous Control System, Computer Based Control.

## **WORKING EXPERIENCES**

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**PT Astra Otoparts Tbk, WINTEQ Division - Karawang, Indonesia** August 2024 - January 2025

**Electric and Robotic Application (Industrial Internship)**

- Perform panel hardwiring activities on industrial automation projects, such as cable scooning, cable addressing, and component layout on panels.
- Modify PLC and HMI programs on machines that have been installed at customers according to customer requests, using Mitsubishi PLC devices with GX-Works and GT-Designer software.
- Participated in the process of machine assembly until commissioning with 6 different projects namely CNC Multifunction Polman Astra, GKD Streamline Conveyor, FIM Automation Line, Yamaha Treble Bridge Nailing Drilling Cutting, Pokayoke For Air Cleaner, Nusametal Auto Handling Lathe Process.
- Trusted by the electric & robotic coordinator to provide training to customers of installed machines on machine operation, machine troubleshooting and machine maintenance.

**Anlimitid PCB - Semarang, Indonesia**

January 2023 - August 2024

**Hardware Engineer (Freelance)**

- Provide friendly and responsive service to customers and provide information related to the order to be placed, thus preventing 50% of order cancellations.
- Create schematic design and layout of 1-layer or 2-layer PCB with Eagle PCB software.
- Printing PCB layout on plain PCB board and etching with ferric chloride liquid or HCL & H2O2 mixture.
- Perform PCB manufacturing processes such as drilling PCB board cutting, soldering, and assembly.
- Successfully made 100 pieces of PCBs within three days and increased the number of sales in the online store and received positive reviews from customers.

**PT PLN Indonesia Power Kamojang POMU - Bandung, Indonesia**

1-28 February 2023

**Instrumentation and Control (Internship Program)**

- Performed preventive maintenance of the compressor for the pneumatic system in the ventilation structure, by removing the air in the compressor tube that contained water and effectively minimized the pneumatic inaccuracy by 10%.
- Monitored the condition of each power plant unit and studied the Instrumentation and Control components with the Kamojang PLTP control room operator.
- Presented the results of internship work to the supervisor with the report title "Governor Valve Control System as Turbine Unit 2 Controller". Obtained an average soft competency score of 92/100, and an average hard competency score of 91/100.

**PT Pacific Furniture - Semarang, Indonesia**

October 2021 - February 2022

**Maintenance Division (On The Job Training)**

- Monitor the temperature of the electric motor that drives the fan or water pump on each dust collector and spray booth unit with a thermogun, shutting down the electric motor in case of overheat.

- Perform maintenance on electric motors such as cleaning dust on the electric motor body with compressor air, lubricating bearings with grease, and replacing bearings if they are no longer suitable for use.
- Responsible for repairing or making lighting installations in every building from production process to finishing, purchasing office, accounting, HRD, and CEO room.
- Repairing production tools such as electric drills, grinders, sanders, spray guns, by replacing bearings, replacing carbon brushes, and replacing armatures effectively reduced the company's expenditure on purchasing new tools.
- Successfully made a new lighting installation in the weaving building with 8 light points and 8 points with a distance of 2.5 meters between one point and another.
- Trusted by the maintenance division manager to handle electric motors in every production process and meuble finishing process.

## ORGANIZATIONAL EXPERIENCE

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**Armapala Kendal – Kendal, Indonesia**

2018 – Present

### Staff Technician

- Prepare and test electricity-related equipment before seminars and meetings, such as sound systems, projector screens, and projectors.
- Repaired organizational support equipment such as piano, head lamp, altimeter, tensimeter.
- Served as projector operator during the seminar.
- Responsible for participating in humanitarian or environmental activities such as blood donation, fundraising for disaster victims, and volunteering to plant trees, clean rivers.

## SKILLS, PROJECT & OTHER EXPERIENCES

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- **Projects** (2023): **Team leader** with 4 members, making a prototype of automatic plant watering and greenhouse temperature control in IoT-based chili plants using ESP32. **Jobdesk:** Designing PCB layout with EasyEda website, soldering components, creating programming algorithms with C language on Arduino IDE software, and creating user interfaces with Blynk website.
- **Projects** (2023): Line Follower Robot. **Jobdesk:** Build AT89S51 minimum system, design PCB for infrared photodiode sensor as line sensor and Op-Amp to process signal from sensor, solder sensor and Op-Amp components on PCB.
- **Projects** (2024): Prototype of coffee fruit sorter based on the color of its maturity level based on IoT ESP32 and Blynk. **Jobdesk:** Create PCB design for ESP32 with EasyEda website, create program using C language on Arduino IDE software, and create interface with Blynk website.
- **Soft Skills:** Creative, Teamwork, Time and Project Management, Good Communication Skills.
- **Hard Skills:** Microsoft Office, Corel Draw, Canva, C Programming Language, CX-Programmer, NB-Designer, Matlab, National Instruments LabView, Eagle PCB, EasyEda, Blynk IoT. GX-Works.