

ASEP IRFAN SETIAWAN

AUTOMATION & SOFTWARE ENGINEER

+62 821-2816-5732 | asepirfans.9c@gmail.com | linkedin.com/in/asepirfans | Garut, West Java, Indonesia

SUMMARY

Automation & Software Engineer with 2+ years of experience delivering industrial automation, software applications, and Machine Learning solutions. Skilled in PLC programming, industrial IoT integration, full-stack web and desktop development, and computer vision model training. Proven track record in modernizing workflows and building scalable technological solutions.

WORK EXPERIENCE

PT Samjin Indonesia

Oct 2024 – Present

Automation & Software Engineer

- **Automated Escape Detection (OCR):** Built and deployed an OCR-based inspection system that reads and verifies the initial setting text displayed on remote control LCD screens, catching incorrect settings previously missed by manual checks — weekly escapes dropped from several per week to 0–1.
- **AI/ML Quality Inspection (NG Detection):** Developed and deployed a computer vision / machine learning model to detect NG (defective) products automatically, catching defects that previously slipped past manual operator inspection.
- **Custom Software & Digitalization:** Designed and built multiple digitalization systems from scratch (incoming goods inspection, production output tracking, and overtime data recording), eliminating paper-based workflows and reducing paper procurement costs.
- **Industrial IoT & Data Acquisition:** Implemented end-to-end IoT monitoring pipelines using ESP32 microcontrollers and Modbus protocol to stream real-time machine telemetry into custom-built desktop interfaces.
- **PLC Programming & Automation:** Programmed and optimized industrial PLC systems (Mitsubishi, Omron, LS Master) to automate production processes, reducing required operators per work area from 3 to 1–2.
- **Key Achievement:** Awarded Best Employee 2025 (Digitalization & Automation category) out of 300+ employees company-wide for high-impact automation systems and software-driven process improvements.

PT Samudra Teknologi Pertiwi (Freelance)

Aug 2024 – Sep 2024

Automation & Backend Engineer

- **Autonomous System Architecture:** Designed and built an Autonomous Mobile Archive Cabinet System, integrating electromechanical robotics with custom software control to automate physical document retrieval.
- **Hardware-Software Interface:** Implemented bidirectional communication between PLC systems and Raspberry Pi via Modbus protocol for real-time motion control, cabinet localization, and telemetry monitoring.
- **Backend & API Development:** Developed RESTful APIs and backend services using Python (Flask) and SQL databases to manage storage mapping, user requests, and system-level commands.
- **Electrical Safety & Deployment:** Conducted electrical wiring design, signal troubleshooting, and safety compliance checks to ensure stable field operation and prevent hardware faults.

Bangkit Academy led by Google, Tokopedia, Gojek & Traveloka

Feb 2023 – Jul 2023

Cloud Computing Cohort — Distinction Graduate

- **Backend & API Architecture:** Engineered scalable RESTful APIs for the capstone project using FastAPI (Python) and Node.js, handling real-time application requests and data transactions.
- **Cloud Deployment & CI/CD:** Designed and deployed automated CI/CD pipelines via GitHub Actions to containerize and deploy microservices on Google Cloud Run.
- **Key Honors:** Awarded Distinction Graduate (top-tier graduate) and ranked among the Top 50 Final Capstone Projects out of thousands of nationwide participants.

EDUCATION

Politeknik Manufaktur Bandung

Aug 2020 – Aug 2024

B.Eng. in Automation Engineering — GPA 3.62/4.00 (Cum Laude)

- Thesis: Design of an IoT-Based Tomato Plant Disease Monitoring and Early Detection System with Android Application.

CERTIFICATES

Certified Junior Automation Maintenance Engineer — BNSP (Indonesian Professional Certification Authority)

Aug 2024 – Aug 2027

Certified Electrical Maintenance Technician — BNSP (Indonesian Professional Certification Authority)

Aug 2022 – Aug 2025

ORGANIZATION EXPERIENCE

Student Executive Board (BEM), Politeknik Manufaktur Bandung

Feb 2022 – Feb 2023

Minister of External Affairs

- **Team Leadership:** Coordinated a team of 13 active members, successfully executing 8 work programs within designated timelines.
- **Cross-Functional Collaboration:** Collaborated with 4 external departments to enhance cross-functional teamwork and achieve shared organizational goals.
- **Culture Building:** Fostered a healthy, supportive work environment that kept members motivated to deliver high-quality work.

SKILLS

Industrial Automation & Hardware: PLC (Mitsubishi, Omron, Siemens, LS-Master), Microcontrollers (ESP32, Arduino), Raspberry Pi, Modbus, CX-Designer, CX-Programmer, GX-Works, KGL-Win, Eagle PCB, Electrical Installation & Troubleshooting

Software Development & AI: Python (FastAPI, Flask), Node.js, PHP, Next.js, JavaScript/HTML/CSS, Machine Learning / Computer Vision (YOLO), RESTful APIs, Desktop Application Development (Tkinter)

Databases & Cloud Tools: SQL (MySQL, PostgreSQL, SQL Server), NoSQL (MongoDB), Google Cloud Run, Git/GitHub CI/CD, Figma

Languages: Indonesian (Native), English (Professional Working Proficiency)