IQBAL ALIANDRA PUTRA

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An Engineering Physics graduate from Gadjah Mada University, specializing in instrumentation, control systems, and automation design. With a strong academic foundation and practical experience in industrial projects, he developed expertise in various technologies. Proficient in PLC, SCADA, and process simulation, with experience in Front End Engineering Design (FEED), system commissioning, and software applications for measurement systems. Committed to delivering high-quality solutions for energy and industrial projects.

EDUCATION

Bachelor of Engineering – Universitas Gadjah Mada   *Sep 2020 – Apr 2024*
Major: Engineering Physics
GPA: 3.57/4.00 (Cum Laude)

- Thesis: Performance Analysis of S7-1500 PLC Integration with MQTT-Based Android Mobile Device.
- Key Skills: Instrumentation, Control Systems, Automation System Design
- Activities: Labwork Assistant, Student Energy Council Member, Society of Petroleum Engineers (SPE).

WORKING EXPERIENCE

PT Wahana Adireksa Pratama   *Jakarta, Indonesia*
Service Engineer (Fire & Gas)   *Nov 2024 – Present*

- Perform repair, calibration, testing, and commissioning of fixed and portable Fire & Gas (F&G) systems, including Factory Acceptance Test (FAT), Site Acceptance Test (SAT) and system installations.
- Conduct surveys, design F&G solutions, and provide training to customers and internal teams.
- Deliver reports, issue calibration certificates, and offer recommendations based on system evaluations.
- Ensure safety, quality, and environmental compliance through risk assessments, JSA, and program support.

PT PLN Mandau Cipta Tenaga Nusantara   *Duri, Indonesia*
Instrument and Control Engineer   *Jun 2024 – Aug 2024*

- Managed and executed control system upgrades, including critical components such as the Heat Recovery Steam Generator and Fire Alarm Control Panels.
- Conducted project preparations, testing, and supervised safety module commissioning.
- Designed testing schedules, and supervised contractor coordination to ensure technical compliance and safety standards.

Pusat Kajian LKFT Universitas Gadjah Mada   *Yogyakarta, Indonesia*
Junior Researcher   *Sep 2023 – Feb 2024*

- Collaborated in the design and execution of experimental studies and surveys, ensuring methodological rigor and alignment with research objectives.
- Conducted comprehensive data analysis using software tools, providing insights to research findings.
- Authored research reports and drafted scientific articles, contributing to the dissemination of research outcomes and peer-reviewed publications.

PT Kilang Pertamina Internasional RU VI   *Balongan, Indonesia*
Electrical and Instrument Engineer Intern   *Dec 2022 – Feb 2023*

- Conducted Safety Instrumented System (SIS) analysis related to the Debutanizer Reboiler Heater Shutdown in the CCR Platforming Process Unit.
- Designed Safety PLC logic for SIS applications, enhancing system reliability and safety measures.
- Simulated Triconex by Schneider Electric to implement and test Safety PLC logic for the Debutanizer Reboiler Heater shutdown scenario.

Universitas Gadjah Mada   *Yogyakarta, Indonesia*
Laboratory Assistant   *Jan 2022 – Dec 2023*

- Supported laboratory courses in Communication Networks, Digital Electronics, Measurement Systems, Basic Informatics, and Computer Programming.
- Led hands-on experiments, assisting in data analysis, system integration, and implementation of microcontroller-based projects (Arduino, ESP8266, ESP32, Raspberry Pi).
- Provided guidance in programming (Python, C) for automation and data processing tasks.

ORGANIZATION EXPERIENCE

Dewan Energi Mahasiswa UGM   *Yogyakarta, Indonesia*
Secretary   *Jan 2022 – Feb 2023*
- Managed the storage and allocation of data from all directorates. '
- Oversaw the filing of physical and digital inventories for Dewan Energi Mahasiswa.
- Handled the process of making and collecting data for all forms of correspondence.

Nuclear & Engineering Physics Student Association   *Yogyakarta, Indonesia*
Human Resources Development Bureau – Head & Staff | Project Officer   *Nov 2021 – Oct 2023*
- Led a team of 10 members, managing over 9 strategic programs focused on HR development and organizational skills.
- Facilitated skill development through workshops and collaborative activities to improve work relationships.
- Organized 9 webinars for 95+ participants and handled recruitment, onboarding, and team regeneration.
- Monitored and provided actionable recommendations to optimize HR processes and team performance.

VOLUNTEER WORK

Community Service Program (KKN-PPM) UGM   *Jul 2023 – Aug 2023*
Student Volunteer
Held a community service for 50 days in Sumberan Village, Yogyakarta. Led initiatives in public health promotion, sustainable tourism development, and cultural preservation. Developed health education materials, created a tourism website, and conducted training sessions for local residents, supporting the UN SDGs for health, education, and sustainable communities.

CERTIFICATIONS

TOEFL ITP   *Sep 2024*
Score: 513/677
Credential: [TOEFL ITP Score Report](#)

Programming PLC & HMI Mitsubishi FX Series - Anak Teknik Indonesia   *May 2024*
Credential: [Certificate](#)

PROJECT

Edge System Design for Integration of S7-1500 PLC Communication   *Jan 2024*
Developed an edge system that integrates Siemens S7-1500 PLC with mobile devices using OPC-UA and MQTT protocols. The project included performance analysis to measure latency, with correlation results of 0.997 for local and 0.605 for cloud. In addition, designing network architecture, HMI display, as well as optimizing mobile integration.

Water Injection Pump System Design Project   *Nov 2023*
Developed the P&ID, Instrument Index, Instrument I/O List, Instrument Loop Diagrams, Instrument Process Datasheet and Cable Block Diagram. Performed calculation for sizing control valve and orifice using InstruCalc. Assisted in creating Junction Box Wiring Diagram, Logic Diagram, and System Architecture.

Knock-out Drum Automation DCS Yokogawa Centum VP   *Jun 2023*
Automating the drum knock-out process in a flare system using Yokogawa Centum VP DCS. The project integrated field hardware with DCS software to improve control and operational efficiency. Developed system documentation and HMI displays to ensure seamless integration.

SKILL & INTEREST

Skills	: Front-End Engineering Design, Detailed Engineering Design, Control Systems, Field Instrumentation, Communication Protocols, Programming and Simulation, Project Management, SCADA Design, Instrumentation Design, Edge Computing, Machine Learning.
Languages	: Bahasa Indonesian (Native), English (Intermediate).
Interest	: Instrumentation, Industrial Automation, Internet of Things, Renewable Energy & Sustainability, Robotics, Artificial Intelligence, Smart Manufacturing & Industry 4.0, Sustainable Engineering Practices, Advanced Process Control, Industrial Cybersecurity.