

Muhammad Jafar Ikbal

BACKEND AND INDUSTRIAL IOT ENGINEER

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SUMMARY

Software engineer working between operational technology (SCADA, PLC, IEC 60870-5, OPC UA) and modern backend engineering (Python, Java Spring Boot, Kafka, PostgreSQL, Docker). Currently on contract with PLN Icon Plus building and maintaining industrial communication services. Public work includes a Kafka-compatible broker written from scratch in Go.

EXPERIENCE

Software Engineer

May 2024 - Present

PLN Icon Plus / Contract

- Developed industrial communication systems and backend services in Python and Java Spring Boot.
- Built an OPC UA front-end processor, a smart modem service, and a digital SMS notification gateway bridging GSM devices to digital systems.
- Created network monitoring tools and an OPC UA simulator with a configurable UI (JavaScript, React).
- Contributed to 21 repositories in the company GitHub organization, 1,344 commits authored between May 2024 and September 2026, counted from the GitHub API on 2026-09-15.

Full Stack Developer

Aug 2023 - Apr 2024

Mutiara Solusindo / Contract

- Maintained and tested an HRIS application: employee database, compliance reporting, and bug fixing.

SELECTED PROJECTS

PocketKafka

Go / 2026

github.com/Yukaz0/pocketkafka

- Implemented the Kafka wire protocol, a partitioned log with retention and log compaction, consumer-group coordination, and tiered storage, with zero third-party dependencies (go.mod declares none).
- Shipped an embedded web UI, a Confluent-compatible schema registry, and REST and MQTT gateways in a single static binary.
- Covered by 15 Go test files; CI runs build, vet, and the full test suite on every push and pull request.

Industrial IoT Dashboard

React / TypeScript / 2026

github.com/Yukaz0/industrial-iot-dashboard

- Built the presentation layer of an OPC UA to Kafka to WebSocket pipeline: 3-phase power analytics, digital I/O and protection state, and a threshold alarm log.
- Decoded flat OPC tag payloads into typed contracts and implemented a built-in simulator so the interface runs and demos with no backend.

Digital Gateway Notifier

Python / FastAPI / 2025-2026

github.com/Yukaz0/digital-gateway-notifier

- Built a Kafka alarm consumer that fans out notifications to Telegram and WhatsApp (WAHA), with a FastAPI backend, JWT auth, a React dashboard, and PostgreSQL for recipients and channel preferences.
- Added a watchdog that restarts the worker when the consumer thread dies, and published delivery results back to Kafka as an audit trail.

SKILLS

Python / Go / Java Spring Boot / Kafka / OPC UA / IEC 60870-5 (101, 104) / Modbus / PostgreSQL / Docker / JavaScript, TypeScript / React

EDUCATION

Informatics Engineering

2023

Muhammadiyah University of Surakarta