MUHAMMAD RIZQAN NUR ADJIE

Software Engineer · Full-Stack & Applied AI Systems

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PROFESSIONAL SUMMARY

Software engineer and Computer Science master's graduate (Tamkang University, 2026; B.Eng. Telkom University, 2023) with proven experience architecting, building, and deploying operational clinical systems, laboratory management software, and digital studio products. Demonstrated track record building resilient database-backed web architectures with zero-loss audit trails, transaction-safe validation, and verifiable state machines (Laravel, React, Next.js, PostgreSQL). Graduate research focused on YOLOv11 and Swin Transformer architectures for fine-grained computer vision. Dedicated to software craftsmanship, clinical confidentiality, and reliable systems.

TECHNICAL SKILLS

Languages	Python, PHP, JavaScript (ES6+), TypeScript, SQL, HTML5, CSS3
Full-Stack & Systems	Laravel, React.js, Next.js (App Router), Inertia.js, PostgreSQL, MySQL, Node.js, FastAPI, REST APIs
Machine Learning & CV	PyTorch, Ultralytics YOLO (v11/v7), OpenCV, Swin Transformer, Weighted Boxes Fusion (WBF), scikit-learn
Frontend & Creative	Tailwind CSS, Three.js, GSAP, WebGL, Vite, Responsive UI/UX, WCAG 2.2 AA Accessibility, Figma
DevOps & Tools	Ubuntu Linux, Nginx, Git, GitHub Actions, Cloudflare Pages, Automated Database Backup & Verification

CLINICAL SYSTEMS IN PRODUCTION & OPERATIONAL ENGINEERING

BDRS — Hospital Blood Bank Workflow System

In Production (Daily Operational Use) · 2025 – Present

Software Engineer (Freelance) · South Kalimantan, Indonesia · Stack: Laravel, React (Inertia.js), PostgreSQL

- Architected and deployed an internal clinical workflow system managing blood unit request verification, serology matching, crossmatching, and issuing for a regional hospital blood bank.
- Implemented strict database-enforced integrity rules: required verification fields block unit issuance without silent automatic overrides, maintaining an auditable chain of custody.
- Established transaction-safe validation and role-based access control, replacing fragmented paper ledgers and multi-sheet spreadsheets.

** Screenshots and public demonstrations conform to healthcare confidentiality protocols and utilize synthetic records with facility identifiers withheld.*

SuhuLog — Clinical Laboratory Temperature Monitoring

In Production (Daily Operational Use) · 2025 – Present

Sole Designer & Developer · South Kalimantan, Indonesia · Stack: Ubuntu Linux, Nginx, Laravel, PostgreSQL

- Engineered and deployed an operational cold-chain temperature-logging platform for clinical laboratory refrigerators and ambient rooms.
- Enforced server-authoritative time-slot locking via physical QR checkpoints to eliminate backdating, and built non-destructive auditable correction logs requiring clinical reason entries.
- Configured on-premises production Ubuntu Linux server with automated, verified database backup and restore routines; backed by automated regression tests.

** System is in daily active clinical use; public technical documentation uses sanitized data and fictionalized site identifiers.*

LabStock — Clinical Laboratory Inventory & Reagent Management

In Development / Staged · 2025 – Present

Software Engineer (Freelance) · Stack: Laravel, PostgreSQL, ExcelJS

- Designed a laboratory inventory ledger enforcing First-Expired, First-Out (FEFO) consumption rules by lot for pathology reagents and consumables.
- Engineered database constraints preventing negative stock balances and duplicate lot registration; implemented idempotent monthly report exports.

DIGITAL PRODUCTS & FRONTEND ENGINEERING

Inazda Studio (inazda.com) Founder & Principal Engineer · 2024 – Present

Independent Digital Studio · Stack: React, Next.js, Tailwind CSS, TypeScript, Figma

- Founded independent software studio building commercial application templates, design systems, and client web solutions.
- Engineered 74 digital products (67 application templates and design system kits, 7 specialized web tools and films), maintaining full-stack architecture, deployment pipelines, and brand assets.
- Designed JAGAU Design Foundation: an accessible token and component grammar enforcing WCAG 2.2 AA contrast standards, state clarity, and responsive layouts across light and dark themes.

Interactive Web Experiences & 3D Configurator Independent Engineering · 2024 – 2026

Interactive Showcase · Stack: Three.js, GSAP, WebGL, Vanilla ES Modules, Vite

- Engineered Deskfolio: an interactive macOS-style desktop portfolio environment with multi-window management, full keyboard navigation, deep-link routing, and zero runtime dependencies.
- Developed real-time Porsche 3D configurator featuring interactive WebGL orbit camera, dynamic paint shading, and smooth camera transitions rendered with vanilla Three.js and GSAP.

ACADEMIC RESEARCH & COMPUTER VISION

Tomato Maturity Detection Using YOLOv11 & Swin Transformer Master's Thesis Research · Sep 2024 – Jun 2026

Tamkang University · New Taipei City, Taiwan · Advised by Dr. Trang-Thi Ho

- Researched and built deep learning architectures for fine-grained greenhouse tomato detection and maturity classification across green, orange, and red stages.
- Integrated YOLOv11 with Swin Transformer hierarchical vision backbones and Multi-Scale SPPF (MS-SPPF) feature extractors to address severe leaf occlusion and variable greenhouse lighting.
- Investigated multi-model Weighted Boxes Fusion (WBF) ensemble strategies on annotated greenhouse imagery.

** Thesis defended June 2026. Public research repository archives model configurations, weights, and scripts; historical evaluation scores are designated as UNREPRODUCED until independent reproduction.*

Tourist Behavior Prediction Using Machine Learning Research Manuscript Draft · 2025

Tamkang University · Stack: Python, scikit-learn, TabPFN, XGBoost, CatBoost, LightGBM

- Engineered leakage-free tabular ML pipelines predicting length of stay, expenditure tiers, and itinerary preferences from 804 survey profiles.
- Benchmarked 9 classification algorithms with 5-fold stratified cross-validation; TabPFN achieved highest predictive stability across targets.

PRIOR PROFESSIONAL EXPERIENCE

Frontend Developer — Capstone Cafeasy Bandung, Indonesia · Sep 2022 – Sep 2023

Telkom University · Stack: React.js, Tailwind CSS, JavaScript

- Developed modular frontend architecture and UI component library for Cafeasy, an omnichannel food-and-beverage ordering and table management platform.

Data Analyst (FGA) — Digital Talent Scholarship Bandung, Indonesia · Sep 2022 – Nov 2022

Ministry of Communications & Information Technology (Kominfo)

- Completed intensive data analytics curriculum covering relational database design, SQL querying, data cleaning, exploratory data analysis, and predictive modeling.

Student Intern — Systems & Data Jakarta, Indonesia · Jun 2022 – Aug 2022

PT Batulicin Enam Sembilan Group

- Performed operational data migration and record reconciliation across legacy enterprise spreadsheets; redesigned internal administrative dashboard mockups in Figma.

EDUCATION

M.Sc. in Computer Science & Information Engineering Sep 2024 – Jun 2026

Tamkang University · New Taipei City, Taiwan · Thesis Defended June 2026

B.Eng. in Software Engineering Sep 2019 – Sep 2023

Telkom University · Bandung, West Java, Indonesia · School of Computing

HONORS, SCHOLARSHIPS & LANGUAGES

Tamkang University Yu-Lien Scholarship: Awarded NT$100,000 for top-tier graduate entrance academic evaluation (AY 2024–2025).

Tamkang University Postgraduate Scholarship: Awarded academic distinction grant in second semester of AY 113 (2025).

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