

Rafif Shafwan

AI/ML Engineer | Data Scientist | Full-Stack Developer

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Garut, West Java, Indonesia | Open to Remote and Hybrid roles

PROFESSIONAL SUMMARY

AI/ML Engineer and Data Scientist with 6+ years of experience building production systems across LLM/RAG applications, computer vision, MLOps, and full-stack financial software. Proven track record of delivering end-to-end solutions for enterprise and public-sector clients, from data engineering and model development through deployment and monitoring. Enterprise deliverables are confidential; comparable open-source implementations are available on GitHub for technical review.

CORE COMPETENCIES

MLOps and Production ML	Experiment tracking (MLflow), containerized deployment (Docker), and real-time monitoring (Grafana) for self-retraining, drift-aware ML systems.
Computer Vision	Multi-stage inference pipelines (YOLO/SSD detection followed by fine-grained classification), improving accuracy on small or densely packed objects over single-pass baselines.
LLM and RAG Applications	RAG systems from single-pass pipelines to multi-agent architectures, built with LangChain, FAISS, and FastEmbed, and evaluated with RAGAS metrics (faithfulness, answer relevancy, context precision).
Full-Stack Financial Software	Production web applications for institutional clients, including double-entry accounting, role-based access control, automated batch processing, and reporting.
Data Analysis and Communication	Dashboards and reports for non-technical public-sector stakeholders, translating technical findings into actionable decisions.

EXPERIENCE

Freelance Data Scientist and ML Engineer

2020 - Present

- Built automated ML retraining pipelines requiring no manual intervention.
- Implemented real-time production monitoring with alerting and anomaly detection.
- Designed multi-stage computer vision inference exceeding single-stage baseline accuracy.
- Owned full MLOps lifecycle: experiment tracking, versioning, serving, and observability.
- Delivered end-to-end financial management systems with double-entry accounting and audit logging.

Data Analyst | Confidential Clients

Jun 2021 - Jul 2022

- Embedded with public sector communications teams to analyze digital media performance across platforms.
- Built dashboards and delivered reports that enabled non-technical decision-makers to act on engagement data.
- Conducted exploratory data analysis to identify trends and inform campaign strategy.

Data Engineer Intern | Star Energy

Jan 2019 - Feb 2019

- Supported migration from legacy file systems to SharePoint, including metadata standardization and data consistency validation.

PROJECT HIGHLIGHTS

Selected examples demonstrating distinct technical capabilities. Where a production version was delivered to a client, it remains confidential; public repositories demonstrate equivalent architecture.

Sovereign Ledger Full-Stack / Fintech / Institutional Software

Financial management system for KPRI Warga Kesehatan Kabupaten Garut, a health-worker cooperative. Features double-entry accounting with full Chart of Accounts hierarchy, automated monthly batch processing (compulsory savings, social funds, loan installments), multi-type loan management with automatic installment scheduling, role-based access for five user roles, and PDF/CSV reporting with letterhead branding. Deployed on-premise via Docker (PHP-FPM, Nginx, PostgreSQL) with Supervisor-managed scheduling and persistent volume backups.

Stack: Laravel 13, Livewire 4, Alpine.js, Tailwind CSS, PostgreSQL, Docker

Indonesian Stock MLOps Platform Finance / MLOps

Automated ML system generating BUY/SELL signals for 45 IDXBLUE blue-chip stocks. Models retrain automatically with performance monitored in real time via Grafana, operating without daily human oversight.

Stack: Python, MLflow, Docker, Grafana, Scikit-learn, Pandas

Multi-Stage Computer Vision Pipeline Computer Vision

Two-stage inference architecture combining broad object detection (YOLO/SSD) with a fine-grained classifier applied to cropped detections, improving accuracy on small or densely packed objects over single-pass detection. Enterprise version delivered under NDA; public repository demonstrates the pipeline design.

Stack: Python, YOLO, OpenCV, PyTorch, TensorFlow

Multi-Agent RAG System LLM / RAG / Multi-Agent Systems

Retrieval-augmented generation system that answers questions from any source material using collaborating agents: a router, a retrieval agent, an evaluator that scores factuality and hallucination risk, and a summarizer. Typed contracts between agents keep the pipeline traceable. Works with any document set.

Stack: Python, FAISS, Streamlit, LangChain, RAGAS

Makmur Grosir - E-Commerce Image Scraper Web Scraping / Automation

Playwright-based scraper for a wholesale store (2,500+ products), automatically sourcing product images across four Indonesian e-commerce platforms (Lazada, Blibli, Shopee, Tokopedia). Implements anti-bot evasion including browser fingerprint spoofing and randomized delays. Runs as a scheduled GitHub Actions workflow with resume support and incremental progress tracking.

Stack: Node.js, Playwright, GitHub Actions, JavaScript

OPEN SOURCE CONTRIBUTIONS

career-ops (AI Job Search Pipeline)

- Resume/CV terminology support: Introduced resume-specific templates and documentation, enabling users to choose between US/industry 'resume' and academic 'CV' formats.
- Indonesia job portal providers: Developed jobstreet.mjs and glints.mjs provider modules integrating public APIs (GraphQL querying, URL validation, SSRF protection, pagination, unit tests).
- Glints and Jobstreet API restoration: Migrated providers following upstream deprecations; added Arabic RTL and Japanese CJK font fallback to the CV template.

Stack: Node.js, JavaScript, HTML/CSS, Playwright, REST APIs, GraphQL, YAML

Natively AI Assistant (AI Desktop App / Electron)

- Settings panel close button fix: Resolved a layout bug where the Settings panel lacked a visible close control due to a flex-1 layout issue.
- Credential persistence fallback fix: Diagnosed and fixed silent loss of saved API keys after app restart. Fix isolates keyring write and falls back to AES-256-GCM encryption on failure.

Stack: TypeScript, Electron, React, Node.js, AES-256-GCM, Tailwind CSS

TECHNICAL SKILLS

Languages	Python (primary), JavaScript, SQL, PHP
ML and Data Science	Scikit-learn, TensorFlow, PyTorch, Pandas, NumPy
MLOps	MLflow, Docker, Grafana, FastAPI
Computer Vision	YOLO, SSD, OpenCV, image segmentation
LLM / NLP	LangChain, FAISS, FastEmbed, Groq, RAGAS
Web / Full-Stack	Laravel, Livewire, Alpine.js, Tailwind CSS, PostgreSQL
Web Scraping and Automation	Playwright, Puppeteer, Anti-Bot Evasion, GitHub Actions
Tools	Git, Jupyter, VS Code, GitHub

EDUCATION

Bachelor of Computer Science | Universitas Terbuka | GPA: 3.36 / 4.0

Completed via distance learning while working full-time. Transferred from UIN Syarif Hidayatullah Jakarta.

Computer Information Systems (partial) | UIN Syarif Hidayatullah Jakarta

CERTIFICATIONS

- Python - Data Science, SanberCode (2020)
- Certified International Specialist Data Modelling (CISDM), Cybertrend (2019)
- Certified International Project Manager Associate (CIPMA), Cybertrend (2019)
- Certified International Supply Chain Associate (CISCA), PASAS Institute (2017)
- Microsoft Technology Associate (MTA), Microsoft (2018)