

RYAS RAFI KARIM

AI Engineer | Computer Vision, Edge AI, LLM & Production AI Systems

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AI Engineer and Electrical Engineering graduate with 1.5+ years of experience building production-grade Computer Vision, Edge AI, CCTV analytics, model serving, RESTful APIs, and Generative AI systems. Experienced in data collection, annotation, training, ONNX/TensorRT optimization, deployment, monitoring, dashboards, and alerting across Ubuntu Server, NVIDIA Jetson, and GPU/cloud environments. Bangkit Academy Distinction Graduate, TensorFlow certified, with hands-on delivery experience for real-time fleet, surveillance, and industrial analytics systems.

Experience

AI Engineer / Project Manager

Gerbang Data Indonesia

Aug 2025 - Present

- Drove innovative solutions by leading cross-functional teams in defining requirements, system specifications, and deployment strategies for 26 tugboats, enhancing operational efficiency through robust training pipelines and real-time monitoring.
- Led the integration of Teltonika API, operational dashboards, RESTful APIs, and Telegram alerts to support fleet monitoring across 26 assets.
- Designed Mining SaaS architecture covering 7 AI analytics modules: Face Recognition, PPE Detection, Danger Zone, Hull Number, Plate Recognition, Fire & Smoke, and Vehicle Classification.
- Optimized 24/7 video analytics pipelines with ONNX, TensorRT, HLS streaming, model serving, monitoring, and deployments across Ubuntu Server, Jetson Orin Nano, and GPU/cloud servers.
- Built an Ultralytics-based annotation web application on Ubuntu Server, enabling an end-to-end workflow from data annotation to model training.
- Implemented LLM and agentic workflows using Ollama, llama.cpp, LangChain, LangGraph, Qdrant, RESTful APIs, self-provider LLM with OpenAI Compatible, and prompt to N8N automation.

AI Engineer

PT Bali Towerindo Sentra Tbk

Jan 2025 - Aug 2025

- Led the development and deployment of multiple computer vision initiatives—such as waste segmentation using polygon-based coverage percentage calculation, people counting, and crowd detection for MBG/maintenance analytics—achieving measurable improvements in operational efficiency and data accuracy by 98%.
- Maintained and optimized License Plate Recognition systems for Jakarta SmartEye, enabling vehicle plate detection across 3,000+ CCTV cameras in Jakarta.
- Trained deep-learning models and deployed workloads to edge devices and Ubuntu production servers while managing three Linux production areas: inference services, deployment, and monitoring.

Machine Learning Cohort - Distinction Graduate (Top 10%)

Bangkit Academy 2023

Aug 2023 - Jan 2024

- I completed a 6-month Machine Learning program led by Google, Tokopedia, Gojek, and Traveloka, where I gained hands-on experience with TensorFlow, Keras, data pipeline construction, model training, and deployment.
- I developed Waste Wizard, a CNN-based waste classification model achieving 95% accuracy, and collaborated with cloud and mobile teams to deploy the model using Google Cloud.

Education

Universitas Singaperbangsa Karawang

Bachelor of Electrical Engineering, GPA 3.78/4.00

Sep 2020 - Jul 2024

Volunteered in the Equipment Division for PROTEK & HIMTEL CUP 2022, managing equipment items and ensuring timely preparation for all events.

Skills

Hard Skills:

AI/ML: Python, TensorFlow, Keras, PyTorch, Scikit-learn, YOLO, OpenCV, OCR, Face Recognition, Object Detection, Segmentation

Model Optimization & Serving: ONNX Runtime, TensorRT, Model Serving, Model Monitoring, FastAPI, Flask

Generative AI & RAG: HuggingFace, Ollama, llama.cpp, LangChain, LangGraph, Qdrant, RAG, Semantic Search, Re-ranking, Prompt Engineering

Infrastructure: Docker, Linux, Ubuntu Server, systemd, Git, GitHub Actions, CI/CD, GCP, NVIDIA Jetson, Intel Arc

Programming & Data: Python, C, Bash, pandas, NumPy

IoT & Edge: Edge AI, Internet of Things, Teltonika API integration

Soft Skills:

Leadership, Client Communication, Problem Solving, Analytical Thinking, Team Collaboration, Innovation, Sense of Responsibility, Proactive Communication, Critical Thinking.

Languages

- Bahasa Indonesia | Native
- English | Intermediate | SEPT TOEFL Score: 522

Achievements, Projects, and Production Systems

- **Top Project Award – SELMA | 2024:** built a GPT-based Smart English Learning Machine Assistant and won Favorite Final Project in Electrical Engineering at Universitas Singaperbangsa Karawang in 2024.
- **Tugboat Analytics Platform | 2026:** built a real-time monitoring platform for 26 tugboats achieved 98% mAP@0.5:0.95 on internal validation data, integrating Teltonika API, dashboard visualization, RESTful APIs, and Telegram alerts.
- **LPR Jakarta SmartEye | 2025:** maintained and optimized a License Plate Recognition system for vehicle plate detection across 3,000+ CCTV cameras in Jakarta.
- **Mining SaaS AI Analytics | 2026:** planned and deployed a 7-module analytics platform for mining operations using edge and cloud computer vision pipelines.
- **Tuboquant LLM & Orchestrator | 2026:** built Generative AI workflows for API-based LLM services, Qdrant vector search, LangChain/LangGraph agents, and N8N automation.

Certifications

TensorFlow Developer Certificate - Google

Machine Learning Specialization - Stanford University, Coursera

TensorFlow: Data and Deployment - DeepLearning.AI, Coursera

DHSP - Video Surveillance System - Dahua Technology Co. LTD