AHMAD ZAKI FIRDAUS

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SUMMARY

Fresh graduate with a strong interest in Artificial Intelligence, particularly in Computer Vision, Object Detection, and Large Language Models (LLM). Experienced in developing image classification and object detection models using TensorFlow and exploring LLM and Retrieval-Augmented Generation (RAG) with LangChain. Highly motivated to learn, with strong analytical and problem-solving skills.

EDUCATION

UNIVERSITAS GADJAH MADA   Aug 2021 – May 2025

Majoring in Electronics and Instrumentation

- GPA: 3.81/4.00
- Thesis: Automatic Waste Classification System Real-Time Object Detection-Based on Single Board Computer Using YOLO Algorithm.

ORGANIZATIONAL EXPERIENCES

HIMPUNAN MAHASISWA   Mar 2022 - Mar 2024

Staff Kelompok Studi Elins

- Conducting training and workshops in the field of electronics and programming in robotic fields.
- Led hands-on lab activities to enhance practical skills.

ELINS RESEARCH CLUB UGM   Jun 2022 - Jun 2023

Staff of Aeromodelling division - Programmer

- Utilized skills in programming, sensor technology, and machine learning for impactful projects.
- Develop an Early Warning System to detect landslides and floods in disaster-prone areas.

TEAMWORK EXPERIENCES

GADJAH MADA FLYING OBJECT RESEARCH CENTER   Dec 2022 - Dec 2023

Hardware Programmer

- Developed UAV Flight Controllers using Teensy microcontrollers with C++.
- Optimized autopilot systems for Quadrotors, Fixed-wing, and Hybrid VTOL Plane for UAVs.
- Achievements : 1st Place KRTI 2023 for Technology Development, Flight Controller Development.

BANGKIT ACADEMY   Aug 2023 – Jan 2024

Machine Learning Cohort/Team Leader

- Proficient in Machine Learning (classification, clustering) and Deep Learning (image processing, object detection).
- Led the development of "StayAwake" app using SSD methods to prevent accidents caused by driver drowsiness.
- Implemented real-time monitoring features to detect signs of inattention and activate alerts for driver awareness.

WORK EXPERIENCE

ZONA FARM   Oct 2024 - Present

AI Engineer
- Developed an classification system to monitor chicken health, enhancing accuracy in poultry farming.
- Developed an Chatbot Poultry Assistant using LLM & RAG.

DCSE UGM

Data Annotator   May 2024 – Jan 2025
- Led and collaborated with a team to develop an optimized image annotation strategy, improving data quality for object recognition.

AI Research Assistant   Mar 2025 – Mei 2025
- Designed an semantic segmentation framework using multi-modal data.
- Developed a pixel-wise segmentation model to accurately segment Borobudur temple reliefs (e.g., UNet, SegNet, PSPNet, DeepLabV3+, YOLO).
- Established an evaluation protocol incorporating segmentation quality and reconstruction metrics.

BPJS Kesehatan   Jun 2025 – Nov 2025

AI Engineer
- Automatic Verification: AI-driven Rules & NLP for Document Checking.
- Combined visual and textual embeddings with signature and QR detection to enable robust multi-modal metadata extraction.
- AI Fraud Detection: Anomaly Detection & Risk Scoring.
- AI Decision Support: Recommendation for Approval/Rejection.
- Automated scalable parallel processing across directories to handle classification, splitting, extraction, and summarization.

SKILLS

- **Technical Skills:** Artificial Intelligence (AI), Object Detection, Deep Learning, Computer Vision, Machine Learning, Generative AI, Internet of Things (IoT), Microcontroller.

- **Programming and Tools:** C++, Python, JavaScript, TypeScript, Git, Scikit Learn, PyTorch, TensorFlow, Keras, OpenCV, YOLO, LangChain, OpenAI, Ollama, PydanticAI, HuggingFace, FastAPI, Docker, SQL Server, AWS, Next.js.

- **Certification** (2024): TensorFlow Developer Certificate
- **Certification** (2023): Machine Learning
- **Certification** (2023): Deep Learning
- **Certification** (2023): Computer Vision
- **Certification** (2023): Data and Deployment