

Praditya Wicaksono

Fullstack AI Engineer

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PROFESSIONAL SUMMARY

Fullstack AI Engineer who builds working, end-to-end intelligent systems — from model experimentation to production-grade web applications. Experienced across adaptive learning (RL-based tutoring), explainable AI (XAI), and real-time collaborative SPAs. Comfortable owning projects from database schema design and robust API development to model deployment and interactive frontend experiences.

TECHNICAL SKILLS

AI/ML & Research: PyTorch, LoRA, Transformers, RAG, MCP, Q-Learning, XGBoost, SHAP (Explainable AI), Multi-Head Attention, LSTM/GRU, Optuna, R, MetalInsight.

Data & Backend: SQL, Pandas, NumPy, Python (FastAPI, Streamlit), Node.js, SQLite, PostgreSQL.

MLOps & Infra: Docker, vLLM, CUDA, HPC, Kubernetes, GCP, AWS, Fly.io, Firebase, Git, CI/CD.

Mobile & Frontend: Flutter (Dart/Riverpod), ES Modules (JavaScript), Tailwind CSS.

Languages: Indonesian (Native), English (Professional).

PROJECTS

MAESTRO — Intelligent Tutoring System

Flutter, Riverpod, Q-Learning, Firestore, Groq/Gemini APIs

Adaptive tutoring platform with reinforcement learning

2024 – Present

- Built an adaptive tutoring platform using Flutter and Cloud Firestore, with a Q-POMDP reinforcement learning policy engine that dynamically adjusts learning parameters per student session.
- Implemented a local Markdown RAG system with in-memory keyword indexing and LRU caching to ground LLM responses and reduce hallucination in pedagogical content.
- Outcome: Secured HAKI software copyright; architecture paper submitted to IEEE ISemantic 2026. Live: <https://maestro-4dcce.web.app/>

JustExplain — Explainable AI Sentencing Predictor

Python, XGBoost, SHAP, MLflow

Collaborative legal sentencing prediction with explainable AI (Lead: Jarot)

2025

- Contributed to a Random Forest + XGBoost ensemble trained on 22.6k+ Indonesian court files, achieving $R^2 = 0.81$ and MAE = 7.03 months using advanced feature engineering (LSA text embeddings, Bayesian target encoding).
- Integrated SHAP (TreeExplainer) for local and global feature attribution (waterfall/beeswarm plots), enabling interpretable predictions for legal practitioners.
- Deployed an interactive Streamlit dashboard for real-time case simulation, with MLflow tracking for reproducible experiment management.

ML Time-Series Forecasting

Python, PyTorch, Optuna

Multi-Head Attention models for financial prediction

2024 – 2025

- Implemented and compared Multi-Head Attention and LSTM architectures for stock market prediction, conducting ablation studies across attention heads, hidden dimensions, and ensemble methods.
- Built an automated feature engineering pipeline with 50+ technical indicators, walk-forward validation, and hyperparameter tuning via Optuna.
- Outcome: paper accepted and presented at ICAMIMIA 2025.

Lectura — Academic Presentation SPA

Node.js, SQLite, Reveal.js, Docker, Fly.io

3-mode Single Page Application with offline-first database synchronization

2025 – 2026

- Developed a 3-mode teaching SPA (Wiki-Study, Presentation, Canvas) driven by a 5-layer Clean JS architecture frontend and a native Node.js HTTP server.
- Implemented custom better-sqlite3 storage synchronization and zero-framework request guards.
- Live: <https://lectura-edu.fly.dev/>

Udinus LaTeX Thesis Template

LaTeX, GitHub Actions, MCP arXiv API

Open-source developer tool with automated citation pipeline

2025

- Built a modular XeLaTeX build system (XeLaTeX + Biber + latexmk) with single-command compilation — adopted by peers (2 GitHub forks).
- Integrated MCP arXiv API for automated BibTeX citation fetching, reducing manual reference management from hours to minutes.
- Open-source: <https://github.com/aditwicaksonodinus/udinus-thesis-template-latex>

EDUCATION

Universitas Dian Nuswantoro

Master of Computer Science (M.Kom.), Informatics Engineering — GPA: 3.96/4.00

Semarang, Indonesia

2024 – 2026 (Expected)

Universitas Negeri Semarang

Bachelor of Education (S.Pd.), Physics — GPA: 3.15/4.00

Semarang, Indonesia

2018 – 2023

Publications: Multi-Head Attention for Stock Forecasting — ICAMIMIA 2025; MAESTRO: Hybrid RL+LLM for Adaptive Tutoring — submitted to IEEE ISemantic 2026. Software Copyright (HAKI) secured for MAESTRO.