

# Wahyu Ikbal Maulana

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## SUMMARY

Aspiring AI/ML Engineer and current Applied Data Science student in the 4th semester at Politeknik Elektronika Negeri Surabaya, with 2+ years of hands-on experience designing and deploying machine learning models, specializing in Large Language Models (LLMs) and Generative AI. Proficient in developing AI agents using Python, Langgraph, with a focus on fine-tuning, prompt engineering, and integrating LLMs into scalable applications. Actively engaged in the academic community, participating in competitions and projects to advance expertise in AI agent development and collaborative problem-solving.

## EXPERIENCE

### AI Engineer

80&Company

Japan - remote

April 2025 - Present

- Developed full stack software using Next.js and Supabase, integrating Dify API to enhance functionality and improve user experience.
- Developed a data scraping automation system using Selenium, integrated with a local LLM to analyze internal company data, streamlining insights generation and reducing manual analysis time.

### Freelance AI/ML Engineer

Individual&freelancer

Surabaya

February 2025 - Present

- Designed and implemented machine learning solutions, including automating MySQL databases with Deno for a coffee export company's reporting system and developing a RAG-based knowledge base website with AI agent workflows for an international company's internal needs, resulting in streamlined operations and enhanced knowledge management.
- Led knowledge transfer initiatives by training IT leaders to develop Langchain and Langgraph-based HR assistants, empowering clients to build in-house AI capabilities and improve HR processes.

### AI Researcher

Politeknik Elektronika Negeri Surabaya

Surabaya

January 2025 - Present

- Involved in various professor-led AI chatbot research projects, including text-to-SQL, fine-tuning, recommendation system and leveraging LLMs in multiple use case

### Freelance Data Science

Joki Proyek

Remote

December 2023 - February 2025

- Worked on simple data science projects for private sector companies and schools, predictive machine learning models to optimize business operations, and developing chatbots for customer service.

### Data Analyst Staff

PT. Media Karya Prestige Internasional (Kanotaria)

Depok

July 2024 - December 2024

- Processed and analyzed company data to create comprehensive company reports, leading to improved decision-making.
- Created a visualization dashboard that contributed to an improvement in cross-team efficiency and overall productivity.

### Student AI Mentorship

KORIKA ID

Jakarta

January 2024 - March 2024

- Selected as one of 12 teams for an exclusive 3-month mentorship program focused on building Generative AI projects, collaborating with top AI professional mentors and experts community.
- Conducted in-depth research on Large Language Models (LLMs) and Natural Language Processing (NLP) to understand their capabilities, limitations, and best practices for application in generative AI.
- Collaborated with a team to develop and refine Generative AI model applications using multiple large language models.

## PROJECT

### Website with Personal Ai assistant | [Github](#), [Link](#)

- Integrated a RAG chatbot into a personal Next.js Typescript website with database support, driving hundreds of page visitors through enhanced user interaction.
- Developed an SEO-optimized website with a dedicated blog feature, regularly publishing technical content to improve visibility and audience reach.

### Ngumpulin: Saas Side Project Startup with Ai and ML Backend | [Github](#)

- Developed an innovative application using Next.js and PostgreSQL, integrating Machine Learning algorithms and Generative AI from the Llama model with a FastAPI backend to assist teachers in grading assignments.

- Streamlined task submissions for students while providing automated grading suggestions through an AI agent capable of processing and analyzing assignment content, delivering intelligent feedback based on predefined rubrics and contextual understanding.
- Implemented MLOps for automatic clustering of student assignments using Docker, further enhancing the feedback mechanism and overall system performance.

#### **Pengabdian Masyarakat Chatbot Kelurahan Keputih | [Banner](#)**

- Developed a RAG chatbot for the Keputih village administration as part of a campus research project, focusing on backend development and research to enhance communication and provide automated responses for community services. Deployed on both Telegram and a website platform.

#### **Gastronomi Research P2V | [Website](#)**

- Developing an AI Agent Text to SQL System in Django framework for the Gastronomy P2V research project, integrating AI-driven customer service solutions with PostgreSQL database, API rate limiting, and websocket implementation on a Flutter-based website for optimized performance and scalability.
- Applied fine-tuning Gemma model using LoRA to enhance model optimization from the SQL database.

#### **Dashboard Analitik Pada Komoditas Pertanian Menggunakan Data Mining dan Deep learning | [Banner](#)**

- Collected and processed agricultural data from various document sources, applying data mining techniques to extract insights and prepare datasets for deep learning models.
- Designed and implemented ETL (Extract, Transform, Load) processes to prepare data for advanced analytics.
- This research project, conducted under the guidance of professors, has successfully advanced to the international level.

#### **Stuntron: Deteksi stunting dengan Generative Ai | [Github](#)**

- Developed a Python-based Streamlit app with authentication, PostgreSQL integration, and Generative AI from the Mistral model for stunting detection, prevention, and nutritional recommendations. This project was created for a competition and successfully passed the final selection.

#### **Malware Detection using Ensemble Method | [Github](#)**

- Developed a malware detection system using several traditional machine learning techniques, and combined and evaluated several ensemble methods to improve classification accuracy and effectively identify malicious software up to 80%.
- Collaborated as part of a team to design the solution and address the problem, with the work documented in a research paper.

#### **Forecasting Indonesia Renewable Energy Contribution to Electricity Generation Using ARIMA Method | [Github](#)**

- Implemented ARIMA modeling, including data preparation, model fitting, and time series forecasting.
- Developed a comprehensive flowchart poster, authored a research paper, and created an explanatory video to effectively visualize and communicate the ARIMA model workflow and key findings.

#### **Guess The Word game | [Github](#)**

- Developed a word guessing game for the Gemastik competition, utilizing Natural Language Processing (NLP) with the Indonesian GloVe corpus and cosine similarity to enhance word prediction accuracy and gameplay experience.

#### **Analisis Clustering Provinsi Sumatera Indonesia | [Kaggle](#)**

- Performed clustering analysis on Sumatera provinces using K-Means clustering machine learning models, with the results cited by multiple Kaggle users and used as a reference.

#### **Data dashboard system using Flask and Airflow | [Github](#)**

- Developed a dashboard system to visualize and manage ETL (Extract, Transform, Load) workflows using Flask and Apache Airflow, also monitoring real-time data on database postgresql.

#### **Culinary Recommendation System by SQL Agent Chatbot on Lombok province**

- Developed a context-aware culinary recommendation API using Django, tailored for integration with a Flutter chatbot, utilizing user profiling and SQL-driven retrieval to deliver personalized food recommendations in Lombok province.

## **SKILLS**

**Programming & Tools:** Python, R, Next JS, PostgreSQL, MySQL, Tailwind CSS, Typescript, Git, GitHub, Drizzle ORM, Prisma, Docker, Trello, Notion, Supabase, Tensorflow, Pytorch, Django, Fastapi, Deno, React Native

**Data science:** Data science pipeline (cleansing, feature engineering, visualization, data modeling), Statistics, NLP, CV, Time series, Hypothesis testing, Tableau, Power BI, Excel, Grafana, Mage ai, Apache Airflow, Pytorch, Flask, Apache Spark, Pentaho

**Soft skills:** Communication, Problem Solving, Critical Thinking, Adaptability, Time Management, Empathy, Resilience, flexibility and agility

## EDUCATION

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### Undergraduate in Applied Data Science

Politeknik Elektronika Negeri Surabay, GPA 3.61/4.00

Surabaya

Aug 2023– Present

## ORGANIZATIONAL INVOLVEMENT & VOLUNTEER WORK

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### Learning materials division, Creative division

Surabaya

Pemandu LKMM PENS

August 2024 – Present

- Creating and conducting research on financial literacy materials and 11 other materials, with reference to the Kemendikbud guidelines, and providing applicable self-management training to more than 350 students.
- Facilitated self-management consultation sessions for 30+ student groups or 100+ individual students, providing practical guidance on self-management and personal development.

### Data Science Content Writer

Surabaya

Data Wizard

October 2024 – December 2024

- Created educational content and engaging data science memes on Instagram to simplify complex concepts and inspire interest in data science for a broad audience.

### Blog Writer

Surabaya

Himpunan Mahasiswa Teknik Informatika PENS

September 2024 – Present

- Authored and published 5+ educational blogs and articles on machine learning, and artificial intelligence on Medium, reaching a wide audience and enhancing technical knowledge among peers.

### Head of AI Division

Surabaya

JANAKA PENS

November 2024 – Present

- Led and managed projects by guiding a team of AI engineers, backend, and frontend developers, providing mentorship and ensuring successful execution of project objectives.
- Developed and implemented innovative AI solutions for entertainment projects, including web anime recommendation systems and AI whatsapp chatbots, Gen AI quizzes to support the largest community on campus with 300+ users.

### EEPIS Data Enthusiast Community

Surabaya

Politeknik Elektronika Negeri Surabaya

February 2025 – Present

- Created materials and taught machine learning to students in the community at Politeknik Elektronika Negeri Surabaya.

## CERTIFICATION & COURSE

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|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| • <a href="#">Certification AI Engineer for Data Science Associate, Datacamp, 2025</a>     | • <a href="#">IT Literacy Training, UICI Research &amp; Community Service Institute, 2022</a>  |
| • <a href="#">AI Engineer Bootcamp, 365 Careers, 2024</a>                                  | • <a href="#">Intermediate Deep Learning with Pytorch, Datacamp, 2024</a>                      |
| • <a href="#">The Data Literacy Course: Learn How to Work With Data, 365 Careers, 2024</a> | • <a href="#">Team Collaboration in the Technology Industry, Future skills Indonesia, 2023</a> |
| • <a href="#">Python and R for Scientific Research Data Analysis, Udemy, 2024</a>          | • <a href="#">Python bootcamp, Udemy, 2021</a>                                                 |