

Maulana Wirawan



Jl.Cocak VIII • Surakarta, 57134 • awan.maraikoh@gmail.com • +62 813-9367-5727 •
[linkedin.com/in/maulanawirawan](https://www.linkedin.com/in/maulanawirawan) • DOB: 20 April 2005

PROFESSIONAL SUMMARY

Biomedical Engineering graduate (Cum Laude) with practical experience in full-stack AI development and medical image analysis. Proven track record in building end-to-end applications from extracting raw data to deploying AI-driven web platforms. While deeply grounded in Python, deep learning architectures, and modern web technologies, I am highly adaptable and always eager to embrace new tools, frameworks, and whatever technical challenges the future holds. Driven by a logical problem-solving approach and a long-term goal of applying software engineering to advance computational neuroscience.

PROFESSIONAL EXPERIENCE

PT. SEMESTA MAHADATA INDONESIA Machine Learning Intern

Tebet, South Jakarta
September 2025 – February 2026

- Engineered an AI-powered Minutes of Meeting (MoM) web application, integrating robust voice-to-text models to automatically generate accurate transcripts and AI-driven meeting summaries.
- Developed a real-time web conferencing system directly within the platform, enabling seamless virtual meetings and integrated audio processing.
- Designed and executed data extraction pipelines by crawling unstructured raw data across multiple social media platforms, performing extensive data cleaning and preprocessing to prepare datasets for machine learning models.
- Built an interactive web dashboard to visualize the social media metadata, providing a streamlined interface to explore and analyze the collected data.

PT. HUTAMA KARYA INFRASTRUKTUR INTERNSHIP

Surakarta, Central Java
July 2023 – August 2023

Internship at PT. Hutama Karya Infrastructure (HKI) on the KBPU Project Replacement and/or Duplication of Callender Hamilton Bridge Jurug Surakarta in the HSE department.

- I was responsible for overseeing and ensuring the company's compliance with applicable HSE standards.

ACADEMIC RESEARCH EXPERIENCE

TELKOM UNIVERSITY

Undergraduate Biomedical Engineering Researcher

Bandung, West Java
March 2024 – April 2024

- Developed a medical image segmentation model using PyTorch and the segmentation models pytorch library to accurately isolate the mandible in dental panoramic X-rays.
- Implemented a U-Net architecture with a pre-trained ResNet34 encoder, optimizing the model using RMSprop and Dice Loss to effectively handle multi-class biomedical image data.
- Engineered a robust image preprocessing pipeline utilizing OpenCV, including custom scaling, padding, and normalization, alongside establishing custom PyTorch DataLoaders for efficient model training and evaluation based on Dice Scores.

PUBLICATIONS

Wirawan, M., Barri, M., Arliandi, M. F., & Fauzi, T. H. (2025). NutriVerse: A Multimodal Mobile Framework Integrating Food Image Classification and Weight Sensor Data for Accurate Diet Monitoring. *9th International Conference on Electrical, Electronics and Information Engineering (ICEEIE)*.
DOI: 10.1109/ICEEIE66203.2025.11254672.

EDUCATION

TELKOM UNIVERSITY

Bachelor of Engineering (B.Eng.) in Biomedical Engineering
Graduated with Honors of Cum Laude (GPA: 3.64 / 4.00)

Bandung, West Java
August 2021 – August 2025

LEADERSHIP AND ACTIVITIES

BIOEX

Selection Proposal Division Member

Bandung, West Java
September 2023 – December 2023

- I was responsible for reviewing and selecting proposals for the event.

CERTIFICATES

CODING STUDIO

Data Analytics Academy 2023

(ONLINE) Bandung, West Java
October – November 2023

GOOGLE

Google IT Automation with Python Professional Certificate

Online, Coursera
Feb 26, 2024

DICODING ACADEMY

Certified Independent Study (MSIB) Cohort 6

Online, Dicoding
February 2024 - June 2024

DEEPLARNING.AI

Online, Coursera

Mathematics for Machine Learning and Data Science Specialization	March 26, 2024
DEEPLEARNING.AI, STANFORD UNIVERSITY Machine Learning Specialization	Online, Coursera April 2, 2024
DEEPLEARNING.AI DeepLearning.AI TensorFlow Developer Specialization	Online, Coursera April 14, 2024
DEEPLEARNING.AI TensorFlow: Data and Deployment Specialization	Online, Coursera May 2, 2024
DEEPLEARNING.AI TensorFlow: Advanced Techniques Specialization	Online, Coursera May 4, 2024
DEEPLEARNING.AI Deep Learning Specialization	Online, Coursera May 4, 2024
GOOGLE Google IT Automation with Python Professional Certificate	Online, Coursera May 6, 2024

SKILLS & INTERESTS

Technical Skills : Python, JavaScript/TypeScript, SQL, C/C++/Arduino, Kotlin/Java, Dart, and MATLAB. Hands-on experience with PyTorch, TensorFlow/Keras, OpenCV, scikit-learn, PaddleOCR, MediaPipe, TensorFlow Lite, pandas, NumPy, SciPy, Matplotlib, Seaborn, Plotly, Streamlit, and Dash. Experienced in CNN, U-Net, SegNet, ResNet/VGG, LSTM/BiLSTM, XGBoost, K-Means, TF-IDF, and LDA.

Software & Platforms : React, Next.js, Vite, Node.js/Express, FastAPI, Flask, React Native/Expo, Flutter, REST and GraphQL APIs, WebSocket/Socket.IO, WebRTC, PostgreSQL/pgvector, SQLite, MongoDB, Supabase, Firebase, Docker Compose, Git, Vercel, Playwright/CDP, and OpenAI, Gemini, and Whisper APIs with RAG and embeddings.

IoT, Security & 3D: Arduino, ESP32/ESP8266, Blynk, MQTT/Antares, Wi-Fi/HTTP/JSON, Bluetooth, and sensor integration/calibration using DHT22, SDS011, MQ-135, TCS34725, HX711, FSR, and optocouplers. Practical exposure to Snort IDS, Nmap, hping3, JWT, RBAC, RLS, audit logging, and secure browser automation. Experienced with Blender/Python, Fusion 360 API, Three.js/React Three Fiber, GLSL shaders, and MediaPipe hand tracking.

Project Focus : I enjoy building end-to-end systems that connect AI models, data, devices, and user interfaces. My projects span medical-image and food-recognition applications, ECG/EEG/PPG analysis, healthcare and telemedicine platforms, VitalFusion and AirQual IoT prototypes, meeting-intelligence tools, social-data pipelines, network-security labs, and interactive neural-brain visualizations. I am especially interested in applied AI for healthcare, computational neuroscience, secure automation, intelligent connected devices, and interactive 3D systems.

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