MARVEL MARTAWIDJAJA

Jakarta, Indonesia | +62-851-0637-8743 | Email | LinkedIn | Github | Portfolio

Solution Architect with a data science background and hands-on experience building AI solutions across banking, financial regulation, research, and industrial operations. I turn complex ideas into practical, well-governed solutions by connecting technology, business needs, and real-world impact.

EDUCATION & TRAINING

Bina Nusantara University | Bachelor of Data Science Sept 2022 – Sept 2026

- **GPA**: 3.74/4.00
- **Relevant Coursework**: Machine Learning, Deep Learning, Bayesian Data Analysis, Scientific Computing, Artificial Intelligence, Algorithm Design and Analysis
- **Thesis**: "*Artificial Intelligence-Based System for Word Recognition and Extraction in Indonesian Sign Language Videos*"

Ministry of communication and digital affairs | Become an AWS Cloud Engineer Feb – Mar 2024

CERTIFICATIONS

Amazon Web Service (AWS) | Certified Generative AI Developer - Professional Oct 2026
Amazon Web Service (AWS) | Certified AI Practitioner Oct 2026
NVIDIA | Efficient Large Language Model (LLM) Customization May 2025
Amazon Web Service (AWS) | Certified Cloud Practitioner Apr 2024
NVIDIA | Fundamentals of Deep Learning Mar 2024

WORK EXPERIENCES

Philip Morris International | Solution Architect Apr 2026 – Present

- Selected among 15 candidates from 6,600+ applicants (top 0.3%) for a global technology program.
- Architected enterprise AI solutions, from computer vision to GenAI assistants, across manufacturing and supply chain.
- Led GenAI solutions from concept to working prototype, connecting business, security and engineering teams.

Indonesian Financial Services Authority (OJK) | Research Fellow (AI/ML) Feb 2026 – Apr 2026

- Performed complaint analytics to uncover compliance breaches and systemic risk exposures
- Built anomaly detection workflows to support early warning of market misconduct
- Contributed to AI-driven Supervisory Technology initiatives, modernizing financial supervision in Indonesia

Bank Central Asia | Data Scientist Intern Feb 2025 – Feb 2026

- Processed and secured 500,000+ customer records, ensuring high data quality while building scalable analytics pipelines.
- Built end-to-end NLP and recommendation systems, achieving 93% accuracy for summarization and intent classification and 93% accuracy for personalized recommendations.
- Developed predictive CLV models and automated reporting pipelines, increasing operational efficiency by 600% and directly supporting business decision-making.

Bina Nusantara University | Research Assistant Mar 2024 – Feb 2026

- Involved in 5 interdisciplinary research projects spanning health, environmental analytics, and energy systems, contributing to problem formulation, data processing, and model development.
- Collaborated closely with professional researchers and university lecturers in designing experiments, analyzing results, and preparing research outputs across multiple studies.
- Contributed to government-funded research with total funding of USD 11,000, supporting 5 projects in health, environment, and energy domains.

United Tractors | Data Scientist Intern Aug 2024 – Feb 2025

- Built NLP and intent detection pipelines using LangChain on 20k+ comments, applying text similarity for quality control and classification to identify consultants needing intervention.
- Conducted large-scale data analysis and predictive modelling, analysing 2M+ sales records via dashboards and applying survival analysis on tractor sensor data to predict equipment failure.
- Developed production-grade data and MLOps pipelines, building Databricks ETL workflows and MLflow-based deployment, monitoring, and drift detection systems.

PUBLICATIONS

Martawidjaja, M., Lefrandt, M., Paramita, N. L. P. S. P., Zhan, R., Komalasari, R., Kurniadi, F. I., Sihotang, E. F. A., Anggreainy, M. S., Cahyono, D. B., & Jati, P. H. P. (2024). *Detecting Bipolar Disorder Based on Crowdsourced Symptoms Using Machine Learning With Shapley Additive Explanations*. *Procedia Computer Science*, *245*, 290–298. https://doi.org/10.1016/j.procs.2024.10.254

Setiawan, K. E., Sihotang, E. F. A., Martawidjaja, M., & Majiid, M. R. N. (2024). *Investigating the Capability of Long Short-Term Memory Input Layers for Sliding Windowed Data for Enhancing Water Quality Parameter Prediction in Small Fishponds*. *Communications in Mathematical Biology and Neuroscience.* https://doi.org/10.28919/cmbn/8841

Martawidjaja, M., Suhendi, N. I., Gunawan, A. A. S., & Tedjasulaksana, J. J. (2025). *Unravelling Public Opinion on Climate Change: An English-Language Twitter Analysis Using LDA and Advanced Sentiment Classification Techniques* (pp. 1–6). https://doi.org/10.1109/siml65326.2025.11081111

Lefrandt, M., Liem, S. M., Martawidjaja, M., Paramita, N. L. P. S. P., & Elwirehardja, G. N. (2025). *Facial Expression Recognition for Public Service Applications: Comparing Convolution and Landmark-Based Models* (pp. 1–7). https://doi.org/10.1109/icitda68167.2025.11332479

Martawidjaja, M., Tandiono, R. D., & Wulandhari, L. A. (2025). *Artificial Intelligence-Based System for Word Recognition and Extraction in Indonesian Sign Language Videos* (pp. 802–808). https://doi.org/10.1109/isriti68345.2025.11393297

Setiawan, K. E., Martawidjaja, M., & Lisdiana, H. (2026). Comparative *Study* of *Pre-Trained* CNN *Models* for *Multiclass Fault Detection* in *Solar Panels*. *Bulletin of Electrical Engineering and Informatics*, *15*(4), 3398–3407. https://doi.org/10.11591/eei.v15i4.11191

Intan, I., Nelwan, B. J., Martawidjaja, M., Susanto, C., & Cangara, M. H**.** *Application of a Multimodal Ensemble Learning System for Real-Time Determination of Immunohistochemical Profiles, Prognosis, and Therapeutic Targets in Breast Cancer Patients.* (**Submitted** to *Egyptian Informatics Journal*)

LEADERSHIP & VOLUNTEER EXPERIENCES

NVIDIA | Guest Speaker Sept 2025

- Selected among three students to present AI innovation at NVIDIA's national press briefing.
- Spoke to national tech media and 100+ BINUS students & lecturers alongside NVIDIA leaders.
- Showcased how GeForce RTX 50 Series GPUs accelerate AI development and real-world use.

NVIDIA | Teaching Assistant May 2025

- Taught and supported 50+ students in an 8-hour workshop on AI and LLM fine-tuning.
- Led hands-on coding with TensorFlow and Pandas, enabling participants to earn NVIDIA DLI certificates.
- Facilitated sessions on PEFT, synthetic data, and LLM customization (GPT, LLaMA-2) using NVIDIA NeMo.

Data Science Club | Head of Education & Development Jul 2023 – Feb 2025

- Led 35 activists in the Education & Development Department, achieving 82%-member growth during the leadership period.
- Launched a Data Science Academy, delivering 2 monthly classes and 10+ modules with video-based materials.
- Established a Research Division, initiating collaborative research programs with the Bioinformatics & Data Science Research Center (BDSRC) and NVIDIA.

Stanford University | Teaching Assistant Sept 2024

- Assisted 120+ students in understanding core data science concepts through guided support and practice.
- Led hands-on exercises using Python, SQL, Tableau, and data mining techniques.
- Collaborated with Prof. Jennifer Widom, Dean of Stanford Engineering, to deliver impactful learning.

HONORS & AWARDS

UIN Syarif Hidayatullah | PEDAS (Pesta Data Nasional) – **2nd Runner-Up** (National Level) Dec 2024
Universitas Indonesia | Compfest AI Innovation Challenge – **Finalist** (National Level) Nov 2024
Ministry of Education | GEMASTIK Data Mining – **BINUS Delegate** (National Level) Aug 2024
Ministry of Education | Satria Data Big Data Challenge – **BINUS Delegate** (National Level) Aug 2024
Universitas Gadjah Mada | JOINTS Business Plan – **Semi-finalist** (National Level) Feb 2023

SKILLS

Programming Languages: SQL, Python, R, C, JavaScript, HTML, CSS, Scala
Software: Tableau, Microsoft SQL Server, Azure Cosmos DB, Docker, Figma, Databricks
Frameworks: TensorFlow, PyTorch, Keras, Scikit-learn, Apache Spark, Mlflow, Pycaret
Languages: English (Professional; **IELTS Overall Band: 7.5**), Indonesian (**Native**), German (**A2** Proficiency)