M. Rifqi Azkiya Jamaludin

AI researcher, evaluation integrity in clinical AI. M.Sc. in Information System, 2026.

Bandung, Indonesia · mrifqi.azkiyaj@gmail.com

ORCID Google Scholar SC Scopus LinkedIn

Research interests

My research addresses trustworthy medical AI, with a focus on evaluation integrity, data-leakage detection and the honest reporting of results in clinical AI benchmarks. I also work on LLM-based explanation and reasoning layers for clinical decision support, explainable AI in safety-critical domains, and computer vision and multimodal learning for medical data. Hybrid quantum-classical machine learning serves as a methodological area.

Education

2024 - Aug 2026

M.Sc. in Information System
Pukyong National University (부경대학교), Busan, South Korea

CGPA 4.38/4.5. Conferred Aug 2026. Global Korea Scholarship (GKS)

Thesis: Hybrid Quantum-Classical Neural Networks for Skin Lesion Classification with LLM-Powered Explainability

Supervisor: Prof. Chang-Soo Kim

2018 - 2022

B.Eng. (S.T.) in Informatics Engineering
Universitas Islam Negeri Sunan Gunung Djati, Bandung, Indonesia

CGPA 3.78/4.00, Cum Laude. Jabar Future Leaders Scholarship (JFLS)

Thesis: Implementation of the Convolutional Neural Network Algorithm in SIBI Sign Language Alphabet Classification

Publications

Journal articles

Jamaludin, M. R. A., & Kim, C. S. (2026). **Evaluation integrity in hybrid quantum-classical skin lesion classification: A data-leakage audit and lesion-level correction on HAM10000.** *IEEE Access, 14*, 101415–101428. Published at IEEE Access.

Jamaludin, M. R. A., Lee, A., & Kim, C. S. (2025). **Enhanced quantum-based DNA sequence alignment with noise handling and error detection.** *IEEE Access, 13*, 197371–197380. Published at IEEE Access.

Local conferences

Jamaludin, M. R. A., & Kim, C. S. (2026). **Stable training of hybrid quantum-classical skin lesion classifiers via offline data augmentation.** Poster presentation, KAGIS 2026, 28 May 2026.

Jamaludin, M. R. A., & Kim, C. S. (2025). **Minimizing qubit requirements in scalable quantum models: Leveraging QECC error detection principles.** Oral presentation, KSII Spring Conference 2025, April 2025. (Best Paper Award.)

Research experience

Aug 2024 - Aug 2026

Graduate Researcher
uIT Lab, Pukyong National University, Busan, South Korea

- Conducted research on trustworthy medical AI and quantum machine learning under Prof. Chang-Soo Kim.
- Audited the HAM10000 benchmark for lesion-level data leakage and re-evaluated a hybrid quantum-classical model against a matched classical baseline (IEEE Access, 2026).
- First author of 2 IEEE Access journal articles and 2 conference presentations (1 oral, 1 poster).

Projects

Oct 2025 - Aug 2026

Quantum-Classical Hybrid AI for Skin Lesion Classification

- Built a skin lesion classifier combining quantum circuit-based feature extraction with classical deep learning (weighted feature fusion).
- Added an LLM-powered explanation layer that generates human-readable clinical interpretations of each prediction.
- Deployed the system as a web-based diagnostic prototype.
- Published the evaluation and data-leakage audit in IEEE Access (2026); defended as M.Sc thesis (2026).

Stack: PyTorch, PennyLane, Qiskit, Hugging Face Transformers

Published at IEEE Access

Aug 2024 - Sep 2025

Quantum-Based DNA Sequence Alignment with Noise Handling and Error Detection

- Developed a noise-resilient quantum alignment algorithm using 3-qubit error-detection encoding, hardware-calibrated noise modelling, and Zero-Noise Extrapolation.
- Achieved 6/6 correct alignments vs. 1/6 for the baseline (confidence > 0.98), using less than half the qubits of standard QECC.
- Presented at KSII Spring Conference 2025 (Best Paper Award); extended version published in IEEE Access (2025).

Published at IEEE Access

2022

SIBI Sign Language Classifier (Undergraduate Thesis)

- Developed a CNN-based classifier for Indonesian Sign System (SIBI) alphabet images, reaching 90% accuracy, and deployed it with the Flask framework.
- Published the dataset on Kaggle for community and academic use.

Dataset: SIBI sign language alphabet dataset on Kaggle

2021, 2022

Augmented Reality Learning Media for Arabic Language Learning

Unity Developer

- Built AR-based learning media using Unity and C# to support the learning of hijaiyah letters and Arabic object vocabulary, used in classroom and university social-service settings.
- Contributed to application development, documentation, and user guides.

Usage instructions on GitHub

2021 **Rust Detector (Google Bangkit Academy Capstone Project)**

Cloud Engineer

– Architected cloud infrastructure on Google Cloud Platform and integrated a machine learning model with an Android application via a Flask API server.

Usage instructions on GitHub

Datasets

2022 **SIBI sign language alphabet dataset**

Images of the Indonesian Sign System (SIBI) alphabet, published on Kaggle for community and academic use. Built for the undergraduate thesis (2022).

SIBI sign language alphabet dataset on Kaggle

Awards and scholarships

2025 **Best Paper Award**

2025 KSII Spring Conference

For: Minimizing qubit requirements in scalable quantum models: Leveraging QECC error detection principles

2023-2026 **Global Korea Scholarship (GKS)**

Government of the Republic of Korea. Full graduate scholarship (M.Sc.)

2019 **Jabar Future Leaders Scholarship (JFLS)**

West Java Provincial Government, Indonesia. 1 year (B.Eng.)

Leadership

2020 - 2021 **Chief of Partnership and Programs**

Google Developer Student Club, UIN Sunan Gunung Djati

– Led a division coordinating community programs, and built partnerships with student communities and industry organizations nationally and internationally.

Skills and languages

Machine learning

Deep learning (PyTorch, Keras)
Convolutional neural networks
scikit-learn
Hugging Face Transformers

Generative AI and LLMs

Large language models
Retrieval-augmented generation
Model explainability

Quantum computing

Quantum machine learning (Qiskit, PennyLane)
Noise modelling and zero-noise extrapolation

Data and evaluation

Pandas, NumPy, Matplotlib
Exploratory data analysis and visualisation
Data-leakage auditing and benchmark curation

Programming and tools

Python, SQL, C#, JavaScript
Git, Jupyter Notebook, LaTeX
Flask (REST APIs), Google Cloud Platform, Docker basics

Languages

Indonesian: Native
English: Professional Working Proficiency
Korean: TOPIK Level 4 (Score 172)