

MUHAMMAD RAIHAN ZAKY MAHENDRA

Computer Science Student — Software & Web Development

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PROFILE

Computer Science student (6th semester) at Pakuan University with hands-on experience across machine learning, web development, and UI/UX design, including a batik motif classification system (GLCM + SVM), a RAG-based academic chatbot, and multiple full-stack web applications. Currently serving as a Teaching Assistant for AI, Web Technology, and Distributed Database courses. Seeking a Software/Web Development internship to apply practical coding, system design, and self-hosting/infrastructure skills in a production environment.

EDUCATION

Pakuan University, Bogor — Bachelor of Computer Science *Present (6th Semester)*
GPA: 3.67 / 4.00 (Cum Laude)

SMK Kosgoro — Computer & Network Engineering (TKJ) *2020 – 2023*

EXPERIENCE

Teaching Assistant *Sept 2024 – Present*
Labkom Maroon, Pakuan University

- Deliver lab sessions and mentor students across AI, Computer Graphics, Distributed Databases, Web Technology, and Client-Side Scripting courses.
- Design practicum materials, exercises, and grading rubrics to support student learning outcomes each semester.

Google Cloud Arcade Facilitator *2025*
Google Cloud Skills Boost

- Guided and mentored 103 participants through Google Cloud's gamified learning program, helping them complete skill badges covering AI agents, application development, and big data/ML.
- Completed 52+ skill badges myself, reaching the program's highest tier (Legend), while supporting fellow participants to reach their own milestones.

PROJECTS

Development

Batik Motif Classification System *2026*
Python, Flask, GLCM, SVM — Final Exam Project, Digital Image Processing

- Built an image classification pipeline using GLCM texture feature extraction and SVM, achieving 71.94% accuracy on the BatikSnap dataset.
- Automated the final report generation programmatically for submission.

Academic Service Chatbot (Undergraduate Thesis) *2026*
LangChain, ChromaDB, Llama 3 (Groq API), Streamlit

- Developed a RAG-based chatbot using multilingual-e5-large embeddings to answer academic queries.
- Evaluated system quality with RAGAS (average score 0.83) and usability with SUS testing (78.5/100, n=30 respondents).

Whale Optimization Algorithm (WOA) Reconstruction *2026*
Python — Group Final Project, Optimization Course

- Reconstructed and benchmarked the WOA metaheuristic optimization algorithm from the original research paper, producing a reconstructed paper, journal summary, and Python implementation with benchmark results.

CVision AI — AI-Powered CV Builder *2026*

JavaScript, AI Integration — cvisionaigenerate.netlify.app

- Built a web application that generates ATS-optimized resumes using AI, including automatic summary writing, ATS score analysis with improvement suggestions, AI-generated cover letters, and multi-template PDF export.

RencanaAdat — Traditional Wedding Budget Planner *2026*

Web App — rencana-adat.vercel.app

- Developed a budget calculator for Indonesian traditional weddings (Sundanese, Javanese, Minang, Modern) that auto-generates a detailed cost breakdown (RAB) exportable to PDF.

Discord Bots (Multiple) *2025 – 2026*

Node.js, Discord.js

- Built several Discord bots for automated notifications and event integration, including a Moodle/LMS class-schedule bot and social media notification bots.

Personal AI Infrastructure Stack *2026*

Docker, Self-Hosting, LLM Routing

- Deployed and configured a self-hosted LLM gateway (9Router) and agent system (Hermes Agent) on a home server using Docker and Tailscale.

UI/UX Design (Figma Prototypes)

NGALALANA — Sundanese Script Learning App *2026*

Figma — UI/UX Practicum Project

- Designed a gamified mobile app prototype for learning Sundanese script (Aksara Sunda), featuring onboarding, an XP/leveling system, interactive map-based exploration, and achievement badges.

KedaiKlik — E-Commerce Shopping App *2026*

Figma

- Designed a complete shopping app prototype including product browsing, cart, checkout, live-map order tracking, wishlist, and review system.

SKILLS SUMMARY

Languages: JavaScript, Python, Dart, PHP, SQL

Frameworks & Libraries: Flask, Laravel, Next.js, LangChain, Discord.js

Data & Machine Learning: GLCM, SVM, scikit-learn, RAG Architectures

Tools & Platforms: Docker, Git, Linux (CachyOS), MariaDB, ChromaDB, Figma

Other: Self-Hosting, System Administration, Web Technology, UI/UX Design

CERTIFICATIONS

- IBM SkillsBuild — Intelligent by Design: Build an AI Agent (Jul 2026)
- IBM SkillsBuild — Introduction to Large Language Models (Jul 2026)
- IBM — IBM Granite Models for Software Development (Jun 2025)
- IBM — Code Generation and Optimization Using IBM Granite (Jun 2025)
- Dicoding — Belajar Dasar Pemrograman JavaScript (Aug 2024)
- Dicoding — Belajar Dasar Pemrograman Web — HTML, CSS & Flexbox (Dec 2023)
- Dicoding — Belajar Dasar SQL (Aug 2024)
- Dicoding — Belajar Dasar AI (Aug 2024)
- Additional coursework: HTML, CSS & JavaScript fundamentals (SoloLearn, Codepolitan, Great Learning)