



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.

Facility & Engineering Intern (PKL)

2022

Hotel Green Forest, Bogor

- Assisted the Engineering team with routine maintenance and repair of hotel electrical, lighting, and cooling systems to support daily hotel operations.
- Responded to technical/facility issues reported by other departments (e.g. room maintenance requests) under supervisor guidance. Set up WiFi network infrastructure for ballroom events and meeting functions.

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, TypeScript, 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