

AULIA RAHMA

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Bandung City, Indonesia

SUMMARY

Telecommunications Engineering student with interests in artificial intelligence, machine learning, and interdisciplinary engineering applications. Experienced in supporting research activities in image processing and computer vision, with hands-on experience in AI-based projects and technical research. Interested in further developing research skills and exploring AI-driven applications across engineering domains.

EDUCATION

Bachelor of Engineering in Telecommunication Engineering

Telkom University, Indonesia

Currently pursuing a Bachelor's degree in Telecommunications Engineering with an academic foundation in communication systems, electronics, programming, and network technologies.

RESEARCH EXPERIENCE

Research Assistant, Image Processing and Vision Laboratory

June 2025 - Present

- Conduct research and literature reviews in image processing and computer vision.
- Develop an ongoing research project on quantum-inspired fuzzy image segmentation, exploring an amplitude-based membership approach within the Fuzzy C-Means framework.
- Investigate the application of the proposed approach to medical and natural image segmentation.

Research Intern, PUI-PT IS-IoT Telkom University

June - July 2026

- Conducted research on routing optimization for Flying Ad Hoc Networks (FANETs), investigating a link-stability-aware PSO-based route selection approach for AODV under dynamic network conditions.
- Prepared an ongoing research manuscript, including the research methodology, simulation design, and performance evaluation.
- Contributed to drafting a reference book on intelligent networks, covering emerging concepts and AI-driven networking technologies.

SELECTED PROJECTS

BodyShape AI, Body Shape Analysis & Personalized Clothing Size Recommendation

- Developing an AI-based system for body-shape analysis and personalized clothing size recommendations.
- Exploring computer vision and machine learning approaches for analyzing body characteristics from images.

Aptiva, AI-Assisted Personalized Learning Application

- Presented the application covering 3 subjects across 3 proficiency levels (beginner, intermediate, advanced) to a panel of 3 judges.
- Integrated an external AI API to support content generation and personalized learning recommendations.

MIoT Project, Smart Home Water Level Monitoring Prototype

- Developed a prototype system that monitors water level using distance-based sensing and automatically controls an electrical output based on predefined thresholds.
 - Implemented automated ON/OFF logic to demonstrate how sensor data can be used for responsive control in a smart home environment.
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PUBLICATIONS & PRESENTATIONS

A Statistical Feature Map Analysis Framework for Quantitative Explainability of CNN Classification, Accepted for Presentation — ICE3IS 2026

- Developed a quantitative framework for assessing CNN feature-map explainability using statistical measures.
 - Evaluated the framework using ResNet-50 and DenseNet-121 architectures.
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ADDITIONAL EXPERIENCE

Practicum Assistant, MBC Laboratory

June 2026 - Present

- Guided 50+ students through practical sessions covering fundamental concepts and applications of data security and blockchain.
- Support students during hands-on exercises, discussions, and assessments throughout the practicum.

Practicum Assistant, Basic Computer Laboratory

June 2024 - June 2026

- Coached 100+ first-year students in algorithms and C programming through weekly practical sessions.
- Provided one-on-one mentorship to 20+ students completing semester-long programming projects in C.

UI/UX Designer, Central of Excellence Connected

January 2026 – Present

- Designed 2 high-fidelity UI/UX prototypes for web and mobile applications, plus 10+ additional design assets including social media content (Instagram stories, feeds, reels), branding materials (logo, lanyard, jacket), and content ideation/production.

International Summer Program (AI in Business), SECE India

June 2025 - July 2025

- Participated in an international academic program exploring the application of AI in business and technology.
 - Collaborated with ~15 participants from Indonesia, Vietnam, and India, organized into teams of 3, on a cross-cultural technology-based project.
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TECHNICAL SKILLS

- **Programming:** Python, C, MATLAB
 - **AI & Computer Vision:** Machine Learning, Deep Learning, Computer Vision, Image Processing
 - **Networks & Systems:** Computer Networks, Network Simulation (NS-3), Linux/WSL
 - **Hardware Exposure:** Sensor-Based Prototyping and Basic Automation
 - **Design & Development:** Figma, Canva, MediBang Paint, UI/UX Design, Web Development
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AWARDS & LANGUAGES

- **Languages:** English and Indonesian.
- **Awards:** **3rd Best Project Innovation** by Global Youth Preneur (2025) - **International**, **3rd Best Project Presentation** by Global Youth Preneur (2025) - **International**, and **Top 50 Digihack Competition** by Digistar (2025) - **National**.