

MARSHAL AUFA DILIYANA

Computer Engineering Student | Universitas Indonesia | GPA 3.85 / 4.00

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EDUCATION

Universitas Indonesia — Bachelor of Computer Engineering 2024 – Present
GPA: 3.85 / 4.00 · Faculty of Engineering, Depok, West Java, Indonesia

SMAN 65 Jakarta — Science Major (Ilmu Pengetahuan Alam) 2021 – 2024
Final Score: 89.98 / 100 · West Jakarta, Indonesia

EXPERIENCE

Senior Staff, Creative Marketing — EXERCISE FTUI Feb 2026 – Present

- Drove Instagram growth through data-informed content strategies, creative campaigns, and consistent brand management.
- Collaborated across teams to communicate complex engineering initiatives and effectively boost target audience engagement.

Member, Student Affairs & Cadre Development Commission — MPM FTUI Dec 2025 – Present

- Formulated the macro curriculum and strategic framework for Masa Bimbingan 2026 to govern 2,000 plus engineering freshmen.
- Executed parliamentary oversight on onboarding committees through rigorous progress evaluations and budget accountability audits.

Representative, Electrical Engineering Faction — MPM FTUI Dec 2025 – Present

- Audited executive performance across 6 divisions and 3 bureaus while managing financial records and legislative documentation.
- Advocated for 2,000 plus engineering students to ensure organizational transparency and optimize resource distribution.

Assistant Lecturer, Fundamentals of Digital Systems — FTUI Sep 2025 – Dec 2025

- Mentored 90+ engineering students in Boolean algebra, Karnaugh map minimization, FSM design, and sequential circuits.
- Evaluated student assessments and conducted hands-on laboratory reviews to accelerate complex hardware comprehension.

Assistant Lecturer, Computational Thinking — FTUI Sep 2025 – Dec 2025

- Instructed 90+ students in advanced Python programming, algorithmic problem-solving, and data analysis using Excel.
- Delivered technical tutorials and provided weekly feedback on student scripts to foster strong analytical foundations.

Head of Division — Ikatan Mahasiswa Elektro FTUI (IME FTUI) Feb 2025 – Dec 2025

- Directed 10+ strategic programs and served as Steering Committee for a multi-event series with 300+ active participants.
- Successfully managed external stakeholder partnerships to elevate departmental visibility and foster professional development.

President — ROHIS Laa Tahzan Feb 2023 – Jan 2024

- Scaled spiritual programs to 500+ participants, led 5 major events, and built sustainable networks to ensure organizational continuity.

Member, Character Development Division — MPKOSIS SMAN 65 Jakarta Aug 2021 – Jul 2023

- Delivered ELIPSE, SOTS, and PERBUMI programs, facilitated LDKO/LDKS orientations, and coordinated logistics for school festivals.

PROJECTS

Lapak UI — Peer-to-Peer Marketplace & Community Platform Apr 2026 – May 2026

- Successfully built a secure full-stack marketplace using Next.js, TypeScript, and PostgreSQL with Prisma ORM.
- Integrated dynamic Redis anti-ghosting counters, Supabase real-time chat, and automated multi-channel notifications.

Folio — Tiered Dynamic Bookstore Catalog Apr 2026 – May 2026

- Engineered MongoDB hot and cold data tiering with Summary Blob pre-aggregation and Bayesian weighted rating.
- Optimized database single document reads to outperform relational SQL by 28.2 times under k6 concurrency load testing.

Computer Price Prediction — Machine Learning Pipeline (CRISP-DM) Apr 2026 – May 2026

- Developed a Random Forest Regressor on 100k plus rows, achieving an 87.85% R-squared and 157.13 dollars Mean Absolute Error.
- Applied IQR Winsorization and RFE wrapper feature selection to resolve dataset multicollinearity and enhance predictive accuracy.

Smart Plant System — Adaptive Irrigation Control (AVR Assembly) Apr 2026 – May 2026

- Programmed bare metal ATmega328P with a custom I2C driver to synchronously manage BME280 sensors and LCD displays.
- Implemented Timer0 Fast PWM pump control, 10 sample IIR noise filtering, and EEPROM threshold persistence.

Marathon Reza Arap / MPL — Enterprise Network Infrastructure Nov 2025 – May 2026

- Designed multi cluster OSPF and RIPv2 networks in Cisco Packet Tracer utilizing VLSM classless subnetting.
- Configured extended ACL firewalls, GRE tunneling, NAT overload, EtherChannel LACP, and centralized infrastructure services.

Microcoded ATM System — FPGA-Based Security SoC Nov 2025 – Dec 2025

- Synthesized a ROM-based microcoded control unit in VHDL on Intel FPGA, effectively decoupling control and data paths.
- Built a parallel PIN authentication accelerator, Block RAM user database, and automated ModelSim testbenches for validation.

DAJJAL: The Last War — 3D Third-Person Shooter Game (Java/LibGDX) Nov 2025 – Dec 2025

- Architected a global Game State Machine in Java to handle seamless transitions across core gameplay phases.
- Integrated backend session authentication and a wave-based progressive enemy spawning system for resource management.

Time-It Compact — Discrete Digital Stopwatch System Aug 2024 – Dec 2024

- Built a fully hardware based synchronous stopwatch using discrete TTL and CMOS integrated circuits.
- Implemented precise lap capture and debounced control logic with no microcontroller to guarantee deterministic timing.

Kantek (Kantin Teknik) — Web & Mobile Canteen Application Feb 2025 – Jun 2025

- Successfully developed an award winning web and mobile application using HTML, CSS, JavaScript, and Figma.
- Integrated a custom nutrient budget filter engine, achieving a highly impressive 90% user satisfaction rating.

SKILLS

Programming: Python, C/C++, Java, TypeScript, JavaScript, VHDL, AVR Assembly, SQL (PostgreSQL), HTML5/CSS3

Frameworks & Tools: Next.js, React.js, Node.js, Prisma ORM, Scikit-Learn, LibGDX, Tailwind CSS, Supabase, Git & GitHub, Figma, Cisco Packet Tracer, ModelSim, Logisim, Quartus Prime, k6 Load Testing, MongoDB, Redis (Upstash)

Hardware & Networking: Bare-metal Microcontroller Programming (ATmega328P), FPGA Synthesis, ROM-based Microcoded RTL Design, TTL/CMOS Logic, OSPF, RIP, VLSM Subnetting, Extended ACL Firewalls, GRE Tunneling, NAT Overload (PAT), EtherChannel LACP, Centralized DHCP/DNS/Syslog

Soft Skills: Leadership, Team Collaboration, Critical Thinking, Analytical Problem Solving, Public Speaking, Time Management, Adaptability

Languages: Bahasa Indonesia (Native), English (Intermediate)