

SAKINAH FARAH AGNIA

sakinah.frha@gmail.com | Bandung | IG @sakinahfrh | 081219782378 | <https://www.linkedin.com/in/sakinahfrh>

PROFILE

Computer Engineering student at Telkom University and a Computer Technology diploma graduate, with experience in embedded systems, automation, and IoT. Have built projects ranging from an ESP32-based irrigation system and RFID-secured automated weapon racks to a real-time acid rain detection device and a Python-based driver behavior detection system. 1st place winner of the West Java TTG Competition 2025, and active as a laboratory assistant and researcher at CoE STAS-RG. Skilled in Python, C/C++, Arduino, and Fusion360, with an interest in AI, IoT, and cyber security.

FORMAL EDUCATION

Telkom University Computer Engineering	<i>Sept 2025 – Present</i>
• Latest GPA: 3.83/4.00 • Laboratory assistant, Faculty of Applied Science • Lecturer's research assistant	
Telkom University Computer Technology	<i>Sept 2022 – Jul 2025</i>
• Latest GPA: 3.9/4.00 [Transcript] • 1st place in the Teknologi Tepat Guna (TTG) Competition in West Java 2025 [Certificate] • Internship at Center of Excellence (CoE) STAS-RG • Researcher of Center of Excellence (CoE) STAS-RG [Certificate] • Practicum assistant of Faculty of Applied Science [Certificate] • Participated in Innovation Track Huawei ICT Competition 2024- 2025 Final National [Certificate]	

RESEARCH & PROJECTS

Digital Twin	<i>Dec 2025 – Present</i>
• Developed a real-time acid rain detection device for monitoring and analysis • Applied the expert-fuzzy method to validate real-time acid rain measurements • Assisted with the device's 3D design, hardware troubleshooting, data collection, and preparation of research reports for publication and presentation	
Automation Irrigation System	<i>Sept 2025 – Jan 2026</i>
• Designed and implemented an ESP32-based automated irrigation system operating in real time and integrated with a website • Contributed to the system design, circuit assembly, and hardware troubleshooting	
Automation Weapon Rack V3	<i>Nov 2024 – Jul 2025</i>
• Responsible for developing the security system for the third version of the weapon storage rack (Automated Weapon Rack), integrated with a website	
Automation Weapon Rack V2	<i>Jul 2023 – Oct 2024</i>
• Responsible for designing and building the security system for the second version of the weapon storage rack (Automated Weapon Rack), integrated with a website • The Automated Weapon Rack is a weapon storage system used at the Yonzipur armory in Pangalengan, featuring RFID-based locking and a database to record weapon usage	
Driver Behavior Detection System	<i>Sept 2024</i>
• Built a Python-based system to detect driver behavior for road-safety analysis • Detected conditions such as drowsiness, phone use while driving, and the driver's facial expressions	
Line Follower Analog	<i>Jun 2023</i>
• Built an analog line follower robot using photodiode sensors and comparator-based control, without a microcontroller	

Automatic Lighting Analog

Jan 2023

- Built an an analog circuit to automate AC lighting control, that turns on and off based on ambient light intensity using an LDR sensor, without a microcontroller.

ORGANIZATIONAL EXPERIENCE

Laboratory Assistant | Telkom University

Aug 2025 – Present

- Responsible for routine hardware and software maintenance in the laboratory to maintain optimal performance and prevent technical issues.
- Checked laboratory facilities, including practicum equipment, to ensure readiness for daily academic activities
- Handled key service for laboratory rooms
- Responsible for key/access management and enforcing laboratory security protocols

CoE STAS-RG | Telkom University

Jul 2023 – Jul 2025

- Conducted research and took responsibility for the Automation Weapon Rack team project
- Responsible for all activities involving the Automation Weapon Rack team
- Participated in STAS-RG activities and carried out tasks assigned by STAS-RG lecturers

Practicum Assistant | Telkom University

Sept 2023 – Jan 2025

- Facilitated student learning during practical sessions
- Explained practicum material and guided students through hands-on exercises.
- Assisted the lecturer in preparing materials, and equipment before sessions
- Reviewed and graded students' practicum reports and assignments

COMMITTEE EXPERIENCE

Staff of Exhibition Division | Telkom University Anniversary

Dec 2025

- Designed the exhibition layout for the CoE STAS-RG booth
- Installed and set up the equipment displayed at the booth
- Staffed and managed the STAS-RG booth throughout the event

Staff of Liaison Officer | Telkom University Orientation 2025

Jul 2025 – Sept 2025

- Part of the liaison officer sub-division
- Liaison officer for 20 students
- Responsible for guided and supported new students throughout the university orientation program

Staff of Liaison Officer | Telkom University Orientation 2024

Jul 2024 – Sept 2024

- Part of the liaison officer sub-division
- Liaison officer for 20 students
- Guided and supported new students throughout the university orientation program

SKILLS

-
- **Languages:** Indonesian (Native), English (Intermediate).
 - **Technical Skills:** Python, C, C++, Arduino & ESP32 programming, Embedded systems, IoT development, Web programming, Database (MySQL), Computer vision, Electronic circuit design, 3D design (Fusion360).
 - **Soft Skills:** Research, Analytical, Problem solving, Leadership, Teamwork, Time management.
 - **Interests:** Research and Development, AI, IoT, Embedded systems, Cyber Security (pentesting).