

DOS HANSEL SIHOMBING

ROBOTICS AND EMBEDDED SYSTEMS ENGINEER

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Robotics and Embedded Systems Enthusiast with hands-on experience in UAV development, microcontrollers, and laboratory assistance. Passionate about tackling engineering challenges by combining hardware-software integration, electronics, and autonomous systems. I have demonstrated proficiency in embedded system programming, UAV research and development, and mentoring through practicum assistantship.

EXPERIENCE

Faculty of Computer Science (FILKOM) University of Brawijaya, *Microprocessor & Microcontroller Practicum Assistant*

Aug 2025 - Dec 2025

Served as a Practicum Assistant for the Microprocessor and Microcontroller course, guiding students in programming and interfacing ATmega8535 using the DT-Combo AVR-51 module.

Robotics and Embedded System Laboratory (RES Lab), *F9.3 Staff*

Feb 2025 - Dec 2025

Managing laboratory activities, maintaining embedded systems equipment, operating 3D print facilities, and supporting practicum sessions related to robotics and microcontrollers.

ROBOTIIK FILKOM UB, *Human Resource Development of Quadcopter*

Feb 2025 - Dec 2025

Contributed to member development by organizing training, mentoring, and workshops to strengthen competencies in ROBOTIIK.

Aerokreasi UB , *Technology Development Division, KRTI 2025*

Jul 2025 – Nov 2025

Member of the Technology Development division in Aerokreasi UB, preparing for the Kontes Robot Terbang Indonesia (KRTI) 2025. Contributed to research, design, and development of UAV subsystems including Telemetry data, electronics integration, and autonomous control.

Faculty of Computer Science (FILKOM) University of Brawijaya, *Advanced Electronics Circuits Practicum Assistant*

Feb 2025 - Jun 2025

Served as a Practicum Assistant for the Advanced Electronics Circuits course, guiding students in calculate, simulating and interfacing using NI Elvis.

Faculty of Computer Science (FILKOM) University of Brawijaya, *System Digital Practicum Assistant*

Aug 2024 - Dec 2024

Served as a Practicum Assistant for the Digital Sytems course, guiding students in digital logic design, circuit implementation, and simulation of digital systems.

Aerokreasi UB , *Fixed Wing Division, KRTI 2024*

Mar 2024 – Sep 2024

Member of the Fixed Wing division in Aerokreasi UB, preparing for the Kontes Robot Terbang Indonesia (KRTI) 2024. Contributed to the design, assembly, and testing of fixed-wing UAVs for KRTI 2024. Involved in avionics integration, telemetry system setup, and flight performance evaluation, as well as implementing object detection, payload dropping mechanisms, and aerial mapping.

ROBOTIIK FILKOM UB, *Staff Programming Quadcopter*

Feb 2024 - Dec 2024

Focused on programming and control system development for quadcopter projects. Assisted in implementing autonomous flight features, sensor integration, and stability tuning.

EDUCATION

University of Brawijaya

Computer Engineering • Aug 2023 - Dec 2026

GPA : 3.9 / 4.0

SMAN 1 Sidikalang

Jul 2020 - May 2023

PROJECTS

Self Balancing Robots

A two-wheeled robot that can automatically maintains its balance automatically using sensor combined with a PID algorithm.

Automatic Sorting Tomato

An Automated conveyor-based system that detects tomato ripeness using a color sensors.

Fixed Wing UAV

A fixed-wing unmanned aerial vehicle designed for aerial missions such as mapping, monitoring, payload dropping, equipped with GPS and autopilot control.

Lora over Mavlink

A long range communication system that integrates the MAVLink protocol with LoRa technology to transmit UAV telemetry data reliably over several kilometers

Pose Striker

An interactive computer vision-based game that detects and evaluates human body poses in real time, challenging players to achieve the highest score through movement accuracy.

Fuzzy School Recommender

A decision-support system that uses fuzzy logic to recommend the most suitable school for students in Malang, considering multiple criteria such as distance, facilities, and extracurricular.

SKILLS

- Electronics • UAV • Robotics • Internet of Things (IoT) • Project Planning • Algorithms

CERTIFICATIONS

Finalist, Kontes Robot Terbang Indonesia (KRTI) 2025 – **Technology Development Division**

Oct 2025

Selected as a finalist in the Technology Development Division of the national KRTI 2025 competition.

Contributed to research, design, and development of UAV subsystems, including telemetry data processing, electronics integration, and autonomous control system implementation.

General English Program Pre-Intermediate levels, **LBPP LIA**

Oct 2024

Completed the General English Program focusing on English communication, grammar, and academic writing skills.

Workshop Fundamental of Embedded and Cyber Physical System, **RESxICNxSTSCIN**

Sep 2024

Credential: Completed a 9-hour workshop on embedded systems, microcontrollers, sensors, programming, and cyber-physical system design.

Finalist, Kontes Robot Terbang Indonesia (KRTI) 2024 – **Fixed Wing Division**

Jun 2024

Selected as a finalist in the Fixed Wing Division of the national KRTI 2024 competition. Contributed to the design, assembly, and testing of fixed-wing UAVs, focusing on avionics integration, telemetry systems, flight performance evaluation, object detection, payload dropping mechanisms, and aerial mapping.

Winner, **National Science Competition (KSN) in Informatics, Regency Level**

May 2022

Achieved winner position in the Informatics category of the National Science Competition (KSN) at the Regency level (Kabupaten Dairi).