LEONARDO FAJAR MARDIKA

+6285727931988 | leonardofajarmardika@gmail.com | https://www.linkedin.com/in/leonardo-fajar-mardika/ | https://leonardofm73.github.io/

As a Robotics and Artificial Intelligence graduate, I specialize in computer vision systems, machine learning algorithms, and robotic manipulators. I am passionate about leveraging AI and robotics to drive automation and efficiency, collaborating on innovative projects to shape future technological advancements.

Work Experiences

Komunitas Robot UNAIR - **Surabaya, Indonesia** Sep 2020 - Aug 2021

Lead Programmer

- Led a cross-functional team of 8 members to design and build an autonomous robot for the Kontes Robot ABU Indonesia (KRAI), resulting in a Top 10 national finalist placement out of 100+ participants.
- Designed and implemented a real-time control algorithm that improved task completion speed by 30%, enabling the robot to perform navigation and object manipulation with high accuracy.
- Developed over 10+ mechanical components using CAD software (e.g., Autodesk Inventor) and optimized the drive system through simulations and iterative prototyping.
- Integrated and programmed 4 DC motors, 2 microcontrollers (Arduino Mega & Uno) to coordinate movement and task execution.

Badan Riset dan Inovasi Indonesia - **Bandung, Indonesia** Jul 2023 - Dec 2023

Assistant Researcher

- Collaborated with a multidisciplinary team of 4+ senior researchers to develop a research paper on AI-based IoT sensor technologies, contributing to both the programming model and hardware design.
- Designed a prototype programming model for smart sensors used in real-time environmental data collection, enhancing data reliability by ~25% during initial testing phases.
- Created 3D molding designs for IoT sensor casings, ensuring durability and performance in field testing across varying agricultural conditions.
- Supported data analysis, system validation, and technical reporting, contributing to a research output prepared for submission to a national scientific journal.

Laskar AI Lintasarta & Dicoding Indonesia - **Remote** Jan 2025 - Jul 2025

Ai Cohort

- Collaborated with an AI engineering team to build and evaluate 5+ machine learning models, tackling tasks such as classification, prediction, and data-driven decision support.
- Performed data preprocessing, feature engineering, and model optimization using Python, scikit-learn, TensorFlow, and pandas, improving model performance by up to 20%.
- Participated in weekly Agile sprint meetings, contributing to research, code reviews, and project planning discussions involving AI innovation.
- Authored clear and structured documentation, experiment logs, and technical reports to support internal knowledge sharing and reproducibility.

Education Level

Universitas Airlangga - **Surabaya, Indonesia** Sep 2020 - Jul 2024

Bachelor of Robotics and Artificial Intelligence, 3.76/4.00

- Finalist in the Kontes Robot ABU Robocon Indonesia (KRAI), leading the robot programming division and contributing to national-level competition readiness.
- Appointed as Class Leader for the Computer Vision course, facilitating group discussions, peer support, and academic coordination among 30+ students.
- Completed multiple academic and lab-based projects, including a robotics experiment focused on designing an autonomous robotic arm with sensor integration and real-time response.

Organisational Experience

Komunitas Robot UNAIR - **Surabaya, Indonesia** Sep 2020 - Jul 2022

Programmer

- Contributed to the programming and optimization of the main robot used in national-level competitions, focusing on control accuracy and task efficiency.
- Served as a core member of a 4-person team, collaborating on strategy development and robot performance improvement during competition preparation.
- Played a key role in establishing and mentoring a new programming team (4 members), guiding them in technical development, problem-solving, and collaboration best practices.
- Participated in technical workshops and internal knowledge-sharing sessions to strengthen the community's robotics capabilities.

Skills, Achievements & Other Experience

- **Achievements** (2021): : Finalist, KRAI Robot Competition
- **Hard Skills**: C/C++ (Intermediate), Python (Advanced)
- **Interest**: Reading, Coding, Robotics, and Artificial Intelligence