

Muhammad Achad Ansori

Electronics Engineering Student

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SUMMARY

I am a final-year Applied Bachelor's student in Electronics Engineering at PENS with a strong interest in Robotics, IoT, and Embedded Artificial Intelligence. I have programming skills in C++ and Python, along with knowledge of Embedded Systems. I have hands-on experience in developing autonomous robot, automation systems, and unmanned vehicles. Certified in related fields, I am eager to learn and grow within the technology industry.

EXPERIENCE

PT Venambak Kail Dipantara - Internship – Sidoarjo, Indonesia

Electronics Engineer (December 2024 - May 2025)

- Designed PCB layout for the FeederVE control box
- Developed code and electronic systems for AutoVE (autonomous mobile aerator)
- Participated in initial production of over 50 FeederVE control boxes
- Resolved electronic magnetic interference issues to ensure stable operation of the BoxVE system

Bangkit Academy led by Google, Tokopedia, Gojek, & Traveloka - Independent Study – Surabaya, Indonesia (Remote)

Machine Learning Cohort (August - December 2024)

- Completed a 5-month intensive Independent Study focusing on Machine Learning, Deep Learning, TensorFlow, Computer Vision, and Data Analysis.
- Enhanced soft skills including Growth Mindset, Adaptability, Critical Thinking, Project Management, and Professional Communication.
- Led the Capstone Project team to develop InSight, a smart defect detection system for SMEs to automate quality control in production.
- Implemented YOLO-based object detection and optimized model inference on Jetson Nano for real-time defect classification. Aimed to reduce inspection time, minimize human error, and support SMEs in increasing manufacturing efficiency.

PT Pertamina Hulu Energi West Madura Offshore - Collaborative Project – RIG Taurus Madura, Indonesia

ROV (Remotely Operated Underwater Vehicle) Pilot and Engineer (July - August 2024)

- Operated and navigated ROVs for underwater inspections of Hull structures with high accuracy in challenging offshore environments.
- Conducted routine maintenance and troubleshooting to ensure optimal ROV performance, including control systems, cameras, and sensors.
- Performed technical testing to ensure ROV readiness for actual marine environments, anticipating and resolving potential issues.
- Collected ROV visual and sensor data for Hull condition assessment to inform safety recommendations.
- Compiled technical reports based on inspection findings to support further maintenance actions.

PT Toshin Prima Fine Blanking Indoprima Group - Internship – Surabaya, Indonesia

Maintenance and Improvement Intern (February – July 2024)

- Designed a Computer Vision system for product selection in Quality Control, replacing traditional manual inspection with deep learning on an embedded PC.
- Created IoT monitoring for Chiller Machine oversight in Blanking operations, from web development and hardware design to integration.
- Performed routine maintenance of blanking machines and provided repair support when needed.

PENSHIP TEAM PENS – Surabaya, Indonesia

Embedded Programmer (Maret 2023 – December 2024)

- Developed software systems for Autonomous Underwater Vehicle and Autonomous Surface Vehicle for autonomous operation, incorporating computer vision, microcontroller programming, and propulsion systems.
- Designed control and communication algorithms across multiple sensors and devices.
- Served as the primary architect for the Robot Operating System, facilitating streamlined vehicle development.

General Manager (Maret 2023 – January 2024)

- Planned, directed, and ensured team members' tasks aligned with the team's mission and timelines.
- Evaluated each team member's performance weekly and proposed solutions based on evaluations.
- Resolved team issues in alignment with collective decisions.

Electric Spesialist (Maret 2022 - February 2023)

- Engineered the electrical systems of an Autonomous Semi Submarine Vehicle for programmability, including propulsion systems, energy efficiency, and water protection as per mechanical team design specifications.
- Assisted the software team with microcontroller programming for automated mission-based movements.
- Designed Printed Circuit Boards aligned with the mechanical design specifications..

ORGANIZATION AND ACTIVITIES

PKM-KC – Indonesia

Leader and Embedded Developer on the project titled "Unmanned Autonomous Surface Vehicle for Offshore Wind Turbine Surveying" (February - August 2024)

EBIO PENS – Surabaya, Indonesia

Media and Information Team Member (February 2022 – January 2024)

- Created and scheduled Instagram feed posts on a monthly basis.
- Designed posters and documented events.
- Led the Publicity, Decoration, and Documentation team for the "Peduli Desa Jilid IX" event.

EDUCATION

Politeknik Elektronika Negeri Surabaya (2021-2025)

Bachelor of Applied Electronics Engineering

SMAN 2 Mojokerto (2018-2021)

Science Major

SKILLS

- *Programming: C, C++, Python*
- *Electronics: PCB Design, Electronic Devices, Simulation*
- *Embedded Systems: Microcontrollers, Control Systems, Design*
- *Robotics OS and Linux OS*
- *Computer Vision and Artificial Intelligence*
- *Problem-solving, Project Planning, Project Management*

CERTIFICATIONS

- Sea Survival and Offshore Emergency Procedure
Issued by PT Global Saftindo
Credential ID: GS-ADM-024-3594
Issued: July 2024 | Expires: July 2027

ACHIEVEMENTS

- 2nd Final Project Competition for Applied Bachelor of Electronics Engineering Study Program, Electronics Engineering Polytechnic Institute of Surabaya
- 3rd Place in the National Underwater Robotics Competition at the Indonesia Robot Contest by the Indonesian Talent Development Center (BPTI), National Achievement Center (Puspresnas), Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
- 2nd Place in Region 2 Underwater Robotics Competition at the Indonesia Robot Contest by BPTI, Puspresnas, Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
- Finalist in the Autonomous Surface Vehicle Competition at the National Unmanned Fast Boat Contest 2024 by BPTI, Puspresnas, Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
- Finalist in the Autonomous Tourism Surface Vehicle Competition at the National Unmanned Fast Boat Contest 2023 by BPTI, Puspresnas, Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
- Finalist in the Autonomous Semi Submarine Vehicle Competition at the National Unmanned Fast Boat Contest 2022 by BPTI, Puspresnas, Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
- Finalist in the Boat Race Competition at COMET, National Shipbuilding Institute of Surabaya 2023
- Finalist in the UI/UX Competition, UPN Veteran, East Java 2022