

ADI HADITYA NURSYAM

MECHANICAL ENGINEER | ROBOTICS, CAD & FEA

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PROFESSIONAL SUMMARY

ITB Mechanical Engineering graduate (GPA 3.90/4.00) with project and field experience in electromechanical design, robotics, SOLIDWORKS CAD, prototype fabrication, ANSYS Workbench FEA, and mechanical maintenance. Combines physical-system analysis with controls, instrumentation, and engineering software.

TECHNICAL SKILLS

Design & Prototyping: SOLIDWORKS part and assembly modeling, 3D CAD, STL export, additive-manufacturing preparation, electromechanical assembly

Analysis & Maintenance: ANSYS Workbench, static structural FEA, stress and safety-factor analysis, failure analysis, field inspection, condition-based maintenance

Robotics & Controls: mechanism design, kinematics and dynamics, DC and stepper actuation, PID, ESP32, sensors, telemetry, experiment design

Engineering Tools: SOLIDWORKS, ANSYS Workbench, MATLAB, Python, C/C++, Git

MECHANICAL ENGINEERING EXPERIENCE

Mechanical Maintenance Intern | PLN Indonesia Power

Jun 2025 - Aug 2025

Cilegon, Banten

- Participated in field inspection and maintenance of coal-handling and auxiliary equipment at Banten I Suralaya Unit 8, including an 800 TPH conveyor operating condition.
- Investigated recurring BC-54 carrying-idler failures using measurements, operating data, 3D modeling, and ANSYS Workbench static structural FEA.
- Calculated 68.77 MPa maximum von Mises stress and a 1.74 minimum safety factor; identified abrasive wear plus fatigue as the more plausible mechanism and proposed periodic ultrasonic thickness inspection.

Mechanical Engineer (Organizational/Volunteer) | Unit Robotika ITB

Jun 2022 - Jul 2025

Bandung, Indonesia

- Designed robot components and assemblies in SOLIDWORKS and coordinated interfaces across mechanical, electrical, and software workstreams.
- Led Sekolah URO's internal technical-training program, coordinating instructors and delivery for member development.

SELECTED ENGINEERING PROJECT

Two-DOF SCARA Robot - Final-Year Project | Institut Teknologi Bandung

2026

Bandung, Indonesia

- Designed the physical robot in SOLIDWORKS, including base, links, shafts, plates, covers, stand, actuator mounts, and top-level assemblies; prepared multiple STL components for 3D printing.
- Integrated a geared DC motor, stepper motor, belt transmissions, position sensors, mechanical structure, ESP32 controller, and custom telemetry into a working teaching prototype.
- Modeled kinematics and dynamics, implemented PID and selectable inertia, Coriolis, and gravity compensation, and developed a five-family experimental validation plan.

EDUCATION & RECOGNITION

Bachelor of Engineering, Mechanical Engineering | Institut Teknologi Bandung

Aug 2022 - Jul 2026

- GPA 3.90/4.00 | Mechanical Engineering Outstanding Student 2022 (one of three departmental students).