ARYAN HIRPARA

MECHANICAL ENGINEERING | PRODUCT DESIGN | THERMAL SYSTEMS | ROBOTICS

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Mechanical Engineering graduate student with hands-on experience in mechanical design, product development, thermal analysis, and manufacturing across semiconductor, hydrogen, and industrial systems. Connects CAD, simulation, prototype testing, and manufacturing requirements to solve practical hardware problems.

EXPERIENCE

Applied Materials | Mechanical Engineering Intern | May–Aug 2026

Santa Clara, CA
• Supported thermal-mechanical improvement of semiconductor equipment through thermal-resistance reasoning, Creo CAD, thermocouple testing, and simulation correlation.
• Considered interfaces, materials, tolerance stack-up, GD&T;, and DFM/DFA in design development and cross-functional reviews.

HyAxiom | Design Engineering Intern | Jun–Aug 2025

East Hartford, CT
• Developed fluid-management concepts for hydrogen systems using concept screening, Creo CAD, tolerance analysis, and engineering risk assessment.
• Supported design reviews and structural/flow-analysis work while considering assembly, service access, and manufacturability.

Ingersoll Rand | Advanced Manufacturing Engineer | Jun 2023–Sep 2024

India
• Supported new product introduction for industrial compressors, connecting design intent with assembly processes, tooling, and manufacturing readiness.
• Developed standard work, BOM and change documentation, and quality workflows to support repeatable production.

University of New Haven | Provost Teaching Scholar / Graduate TA | 2026–present

West Haven, CT
• Support mechanical design and engineering laboratories, including GD&T;, experimental preparation, and undergraduate mentoring.
• Research interests include dual-arm human–robot interaction, ROS 2, Python, and NVIDIA Isaac Sim.

SELECTED ENGINEERING PROJECTS

Dual-UR3e learning from demonstration: Gesture-to-motion mapping, kinematic reasoning, and ROS 2 / Python integration in a physical dual-arm research setup.
6-DOF robotic arm: SolidWorks assembly and joint design, Arduino / Python control, and inverse kinematics.
Composite aircraft wing: CFRP laminate modeling and academic structural analysis using ANSYS ACP.
Smartwatch enclosure: Mechanical packaging and DFM/DFA around an ESP32-based embedded system.

EDUCATION

M.S. Mechanical Engineering — University of New Haven | Expected December 2026
B.S. Mechanical Engineering — Pandit Deendayal Energy University | May 2023

TECHNICAL TOOLKIT

Creo · SolidWorks · CATIA · ANSYS FEA/CFD · GD&T; · Tolerance analysis · Thermal networks · DFM/DFA · NPI · Lean / VSM · Prototype testing · Python · MATLAB · VBA · ROS 2 · Isaac Sim · Arduino

Portfolio resume · September 2026. Employer-specific hardware, process settings, and internal results generalized.