

HENDRO BROTOASMORO

Senior Mechanical & Systems Engineer

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+1 (555) 876-5432

hendro.brotoasmoro@example.com

https://linkedin.com/in/hendro-brotoasmoro

https://hendrobrotoasmoro.dev

PROFESSIONAL PROFILE

Accomplished Mechanical and Systems Engineer with 8+ years of engineering leadership in precision robotics, automated machinery (SPM), and advanced manufacturing systems. Demonstrated track record orchestrating multidisciplinary engineering teams from concept design through validation and volume manufacturing. Expert in SolidWorks (CSWP), FEA/CFD simulation, GD&T, and lean DFM/DFA optimization. Passionate about pioneering next-generation industrial automation and high-reliability mechanisms.

EDUCATION

M.S. in Mechanical Engineering

Stanford University

2018 | GPA: 3.85 • Honors

B.S. in Mechanical Engineering

University of California, Berkeley

2016 | Magna Cum Laude

TOOLKIT & CAD

CAD & 3D MODELING

- SolidWorks (CSWP)
- Autodesk Inventor
- PTC Creo
- AutoCAD
- CATIA V5

SIMULATION & SYSTEMS

- ANSYS FEA / CFD
- MATLAB & Simulink
- Antigravity IDE
- Python (NumPy / SciPy)
- Siemens Teamcenter PLM

WORK EXPERIENCE

2022 - Present

Apex Robotics Corp

Lead Mechanical Design Engineer

- Spearheaded the end-to-end mechanical architecture for high-speed multi-axis robotic pick-and-place automation systems, reducing overall cycle time by 28%.
- Conducted comprehensive structural FEA and dynamic vibration simulations in ANSYS, ensuring 100% compliance with ISO and OSHA safety standards.
- Mentored junior engineers, established standard operating procedures for SolidWorks PDM revision control, and streamlined cross-functional engineering handoffs.
- Collaborated directly with enterprise clients and contract manufacturers to resolve complex thermal dissipation and tolerance stack-up challenges.

Mar 2019 - Jan 2022

Nexis Automation Systems

Senior Systems Engineer

- Engineered bespoke conveyor assemblies, cooling chambers, and pneumatic actuators for automotive tiered suppliers with zero critical field failures.
- Authored full engineering design documentation, Bill of Materials (BOM) within SAP ERP, and geometric dimensioning & tolerancing (GD&T) manufacturing drawings.
- Reduced unit fabrication costs by 18% through strategic design-for-manufacturing (DFM) refactoring and standardized component selection.
- Led on-site commissioning, machine qualification (FAT/SAT), and performance testing across 6 global production facilities.

Mar 2017 - Feb 2019

Precision Tech Manufacturing

Product Development Engineer

- Managed new product introduction (NPI) pipelines for precision automotive chassis components, achieving a 99.4% first-pass inspection yield.
- Designed specialized tooling fixtures and automated assembly jigs in Autodesk Inventor, improving operator throughput by 35%.
- Directed ISO 9001 and IATF 16949 quality audits, conducting root cause failure analyses (8D) to resolve supplier manufacturing anomalies.



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PERSONAL DETAILS

Date of birth
January 15, 1994

Nationality
United States (Global Mobility)

SOFT SKILL

- Cross-Functional Leadership
- Critical Thinking & 8D Root Cause Analysis
- Agile & Scrum Project Management
- Strategic Vendor Negotiation
- Complex Mechanism Design
- Technical Mentorship
- Stakeholder Communication
- Continuous Process Improvement (Kaizen)

LANGUAGE

- English | Native / Bilingual
- German | Professional Working (B2)
- Japanese | Conversational Proficiency

WORK EXPERIENCE

Jun 2016 - Feb 2017

Vanguard Dynamics

Mechanical Engineering Associate

- Designed sheet metal enclosures, precision injection-molded casings, and structural brackets for aerospace ground-support equipment.
- Developed automated Python calculation scripts for gear train sizing, bearing life estimation, and fluid pressure loss computations.
- Supervised rapid CNC prototyping and 3D printing labs, accelerating physical validation sprints by 2 weeks.

Sep 2015 - May 2016

Berkeley Robotics Lab

Graduate Research Assistant

- Researched compliant mechanisms and bio-inspired robotic grippers under NSF grants, co-authoring 2 IEEE conference papers.
- Designed high-precision test rigs with load cells and high-speed optical tracking to characterize soft actuator hysteresis.

CERTIFICATION

2023 | **Certified SolidWorks Professional (CSWP)**
Dassault Systèmes

2021 | **Project Management Professional (PMP)**
Project Management Institute (PMI)

2019 | **Six Sigma Green Belt (SSGB)**
American Society for Quality (ASQ)

2017 | **OSHA 30-Hour General Industry Safety Certification**
U.S. Department of Labor