

Aaron Gothard

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Education

Vanderbilt University | Nashville, TN

May 2025

Bachelor of Engineering, Mechanical Engineering

Major GPA: 3.51/4.00, Dean's List (6 of 7 Semesters), James A. Clark Scholarship (1 of 10 recipients)

Skills

- **Design:** SOLIDWORKS, Certified CATIA V5 Mechanical Designer, ANSYS FEA/CFD, 3DEXPERIENCE, AutoCAD/F360, LabVIEW
- **Fabrication:** Machining, Component Selection for Structural Loads, 3D Molding and Casting, Welding (MIG, TIG, Stick)
- **Professional:** Writing SOPs, GD&T, DFM, Lifecycle Management, Project Management, GMP, Statistical Analysis
- **Certifications:** Engineer in Training (EIT), Solidworks Associate (CSWA)-Mechanical Design, ENOVIA Collaborative Designer, CATIA Mechanical Designer, 3DEXPERIENCE Mechanical Designer & Collaborator

Relevant Coursework

Heat Transfer, Design and Manufacture, Energetics Laboratory, Mechanics of Materials, Machine Analysis and Design, Dynamics

Experience

Trimteck, LLC | Coral Springs FL

August 2025 - Present

Junior Design and Manufacturing Engineer

- Wrote SOPs for all staff and processes to ensure compliance with ISO 9001:2015, ASME B16.34, PED 2014/68/EU
- Made and submitted application for Module H certification under the Pressure Equipment Directive (PED) 2014/68/EU
- Designed severe service valves with multi-stage trims and advanced flow characteristics for high-pressure applications
- Led company-wide research to eliminate brittle failure of plugs and improve product reliability

Graham Packaging | Bowling Green, KY

June 2023 - August 2023

Manufacturing Intern

- Installed and troubleshot 2 new blow-molding lines, each capable of producing over 200,000 bottles per day
- Performed product profiling and qualification using Good Manufacturing Processes (GMP)
- Collaborated with industry professionals to optimize manufacturing processes for Valvoline, BP, OWI, Idemitsu bottles
- Assembled technical documents, interface control sheets, and value stream maps for manufacturing processes

The Wond'ry | Nashville, TN

May 2022 - May 2025

Makerspace Technician

- Design fixtures and tooling for simulation media for bone biopsy training in VUMC
- Facilitate personal and professional projects for Vanderbilt Faculty and 400+ Students
- Mentor and advise senior and student design teams through the iterative design process
- Orchestrate workshops to teach design principles, rapid prototyping, laser cutting, 3D printing to students and faculty

Projects

Nissan NextGen Vehicle Buck

A fully adjustable ergonomic buck for market research

- Led the design and fabrication of a full-scale automotive buck with 14 points of articulation
- Collaborated with engineers at Nissan North America to ensure adjustability encompassed 4+ future vehicle platforms
- Created free body diagrams and evaluated safety factors using Ansys Workbench
- Conducted market research with 100+ consumers, identifying key design preferences that informed Nissan's future vehicle platforms

Bone Biopsy Phantom

A substitute for human tissue for training medical staff to perform bone biopsies

- Designed molds for trilayer limb stand-ins using Solidworks
- Casted individual parts using materials fitting their real-world properties
- Collaborated with VUMC Doctors to refine materials and design for optimal tactile feedback
- Filed provisional and utility patent applications for our design (US Utility Application No. 18/309,362). Patent pending