

BENJAMIN THOMAS

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EDUCATION

The University of Texas at Austin, Austin, TX
Bachelor of Science, Mechanical Engineering
GPA: 4.0/4.0

May 2029

EXPERIENCE

Mechanical Engineering Research Intern, *A&M Robotics Automation and Design Lab* June 2026 – Aug 2026

- Designed a NASA GSE-style rover troubleshooting workstation in SolidWorks, performing structural analysis (rivet loading, gusset design) on a riveted 5052-H32 aluminum frame.
- Integrated gravel-terrain casters, an outdoor-readable telemetry display, and Raspberry Pi-based status LEDs, while managing manufacturing and vendor sourcing for a 100+ item build across multiple suppliers.
- Implemented an AI-based tool-scanning and detection system to auto-trace tool profiles and generate custom foam-insert layouts for lab tool organization.

Freshman Introduction to Research in Engineering (FIRE), *Faculty: Dr. Leah Chong* Aug 2025 – Dec 2025

- Designed and piloted an experimental protocol for a human-subject study on AI-generated CAD suggestions.
- Developed a modular FEA optimization demo in nTOP, allowing participants to adjust simplified design variables in real time to observe optimization behavior.

ER4 Mechanical Engineering Intern, *NASA Johnson Space Center* June 2025 – Aug 2025

- Refurbished mechanical transmission components on the Space Exploration Vehicle (SEV).
- Assisted in repairing MicroChariot wheels; developed CAM for a universal wheel hub design.
- Developed prototypes for the SEV rain-cover and flagpole.

EXTRACURRICULARS

Longhorn Racing FSAE, *Combustion Vehicle Dynamics Engineer* Aug 2025 – Present

- Ran FEA simulations on the rear upright assembly, applying DFM/DFA principles to identify high-stress concentrations and cut mass by 5% while holding a 1.75 safety factor.
- Designed brake line routing and mounting hardware for the vehicle's braking system.
- Developing test plans and generative design studies for additive-manufactured titanium components based on load case analysis.

Genesis, *Venture Analyst* Jan 2026 – Present

- Selected for a 12-member team managing UT Austin's \$2M student-run venture fund; conducted market and diligence research on prospective hardware startup investments.
- Evaluated founder pitches and contributed to investment recommendations presented to fund leadership.

FIRST Robotics Competition Team 118, *Student Leadership Committee* Jan 2022 – May 2025

- Worked alongside 8+ students in manipulator subsystem design, manufacturing, and assembly for competition robots; World Division Champion, 2x Texas District Championship Winner, 17x Regional/District Champion.
- Machined 30+ components using CNC Router and Lathe.

International Student Advisory Board, *Robotics Education & Competition Foundation* Sep 2022 – May 2025

- Represented 11,500+ competitors across 40 nations, advocating for improvements in global robotics education and judging standards.
- Presented competitor perspectives directly to organizational leadership, contributing to actionable changes in event structure and student engagement strategies.

HONORS & SKILLS

Start-up Simulator Pitch Competition (ABSA x TPC x Convergent x MISA) | 1st Place Jan 2026

Bambu Lab Student Ambassador May 2026

CAD & Analysis: SolidWorks, Fusion 360, FEA (Ansys Mechanical, nTOP), DFM.

Manufacturing & Prototyping: CNC routing, laser cutting, sheet metal fabrication, rapid prototyping (FDM/SLA).

Eligible to work in the U.S. with no restrictions.