

Will Doster

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EDUCATION

Massachusetts Institute of Technology

Cambridge, MA

B.S. in Mechanical Engineering, Minor in Computer Science | GPA: 5.0/5.0

Class of 2027

Relevant Coursework: Design and Manufacturing, Thermal-Fluids Engineering, Mechanics and Materials, Dynamics and Control, Robotics, Machine Learning, Fundamentals in Programming, Algorithms, Numerical Computation.

PROFESSIONAL EXPERIENCE

SpaceX

Starbase, TX

Tooling Intern

June 2026 – Present

- Designing safety systems and work access platforms for Starship barrel tools, completing hand calculations, FEM analysis, and engineering drawings across rapid design cycles from concept through manufacturing oversight.

Mecado

Cambridge, MA

Machine Learning Intern

January 2026 – February 2026

- Fine-tuned an LLM on semantic-to-CAD pairs using supervised learning for syntactic understanding and reinforcement learning for geometric reasoning. Created a Text-to-CAD environment in NX by programming a plugin for generation.

Northrop Grumman

Allegany Ballistics Laboratory, WV

Structural and Thermal Engineering Intern

June 2025 – August 2025

- Performed advanced structural and thermal FEA with Abaqus on rocket motor components for a variety of load cases.
- Designed the first modular, 3D printed ring igniter housing to reduce manufacturing costs and prevent nozzle clogging.

kW Mission Critical Engineering, Member of WSP

Atlanta, GA

Mechanical Engineering Intern

June 2024 – August 2024

- Designed large data center cooling systems by performing fluid and thermal load calculations, producing piping drawings.

PROJECTS

MIT Aura Lab: Undergraduate Researcher

Cambridge, MA

Flapping-Wing Robot Design

August 2025 – Present

- Designing and building the first flight-capable flapping-wing robot with active pitch control for biological observation.
- Executed thrust production and efficiency tests, demonstrating 28% thrust improvement over fixed-wing robot.

MIT Design and Manufacturing Robotics Competition

Cambridge, MA

Competition Robot Design

January 2025 – May 2025

- Designed, manufactured, and programmed a robot with an autonomous cascading arm and deployable lever flipper, placing 3rd out of 150 competitors. Received the MIT International Design Competition award for outstanding originality.

MIT Liquid Propulsion and Controls Team

Cambridge, MA

Nitrogen Back Pressurization System Design

August 2025 – May 2026

- Led sizing of tanks and valve selection for a bipropellant rocket engine pressurization system using pressure drop analysis.

Precision Machine Design Lab: Undergraduate Researcher

Cambridge, MA

Flexure Design

August 2024 – December 2024

- Designed and FEM-validated a variable stiffness flexure via an adjustable boundary for artificial muscle characterization.

Vacuum Chuck Design

January 2025 – May 2025

- Designed and manufactured a vacuum workholding system for a mill that met tolerances of $\pm 0.001''$ on machined flexures.

Laser Ablation System Design/Controls

November 2023 – May 2024

- Programmed laser motor controls using LabVIEW & C#, translating mirror angles into a prescribed 3D cutting path.
- CAD designed and manufactured piston system to open protective hood with a maximum force of 70N.

LEADERSHIP AND SOCIETIES

Chi Phi Fraternity: *President (Previously: Vice President, Secretary)*

May 2025 – December 2025

- Organized bi-weekly meetings for 40 members. Oversaw all house positions and handled conflict resolution.

MIT Men's Lacrosse Team: *Defense*

August 2023 – Present

- Training 20+ hours weekly for competition on MIT's Division III team. 2x Academic All-Conference award recipient.

Pi Tau Sigma Mechanical Engineering Honor Society: *President*

January 2026 – Present

- Serving as primary contact for national organization, managing chapter operations, member induction, and campus events.

Tau Beta Pi Engineering Honor Society: *Member*

January 2026 – Present

Global Teaching Labs (Italy): *Teacher*

January 2025 – February 2025

Boy Scouts: *Eagle Scout, Senior Patrol Leader*

August 2015 – May 2023

SKILLS AND INTERESTS

Engineering: CAD (NX, SolidWorks, Fusion), FEA (Abaqus), GD&T, CNC Mill/Lathe, Metrology, Injection Molding

Software: Python, PyTorch, MATLAB/Simulink, Git, Arduino, C#/C++, Excel, LabVIEW, Office

Interests: Backpacking, Snowboarding, Music, Fitness, Food