# Jaden McKee

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## Education

**B.S. in Mechanical Engineering** — **Massachusetts Institute of Technology** – Expected **2028**
GPA: **4.8/5.0**

## Technical Experience

**Undergraduate Researcher/Intern — MIT D-Lab** May 2026 - Present

- Designed an indirect solar dehydrator and hosted a community design review on manufacturing feasibility
- Built a prototype using only materials and fabrication techniques readily available in Iquitos, Peru
- Field-tested prototypes to characterize efficiency, reaching the 50°C drying-chamber target with a passive solar collector
- Researched methods to dry aguaje fruit and improve oil yield
- Ran a trade study on aguaje oil press options and advised rural Peruvian farming communities on best designs

**Engineering Intern — Evolve Battery and Grid Solutions** June 2025 - August 2025

- Created a telemetry dashboard with a user-friendly GUI for real-time monitoring of a customer solar array
- Set up a cost-effective Raspberry Pi system to communicate with sensor loggers and transfer data to an internal server
- Processed data to determine energy curtailment of independent power producers and the find optimal discharge period
- Presented findings to the Chief Engineer, informing revenue per customer projections

**Makerspace Mentor — Project Manus** January 2026 - Present

- Run machine shop open hours 4 hrs/week and enforce safe practices
- Train students on laser cutters, 3D printers, table saws, lathes, soldering stations, MIG welders, and more
- Work with shop staff to maintain and troubleshoot equipment, gaining proficiency in each tool's operation

## Projects

**Capstone Robotics Competition** February 2026 - May 2026

- Ran a points-vs.-effort trade study on 15 task options to determine the optimal competition strategy
- Designed a robot to autonomously grab and winch a 20 lb tire while maximizing lap speed
- Modeled parts in SolidWorks, machined them manually and on CNC, and integrated motors, sensors, and controls
- Achieved a 2 ft/s top speed up a 20° complex incline and autonomously winched a 20 lb tire

**Nanostructure Metamaterial Optimization** February 2026 - May 2026

- Designed a metamaterial nanostructure optimized for stiffness and toughness under a 20% infill constraint
- Ran FEA on multiple candidate structures to compare their effective Young's modulus and predict performance
- Fabricated the metamaterial via 2-photon lithography in MIT's Nanolab and tested it on a Nano-Instron

## Leadership and Activities

**President and Recruitment Chairman — MIT's Sigma Chi Fraternity** June 2026 - Present

- Lead the fraternity's operations, events, and conflict resolution, and represent the chapter to the MIT community
- Coordinated multiple events throughout the year to publicize the chapter and recruit new members

**Executive Board Operations Coordinator — Camp Kesem MIT** August 2026 - Present

- Created all programming for a free 2-week summer camp for children ages 5–17 affected by a parent's cancer
- Coordinate logistics for over 250 campers and 100 counselors, including transportation, scheduling, and supplies
- Dedicate about 8 hrs/week to planning fundraising, outreach, and recruitment with the executive board

**Varsity Pole Vaulter — MIT Track and Field** 2024 - Present

- Balance 15 hrs/week of training and competition with a full engineering course load
- Personal best of 17 ft; Conference champion and NCAA Nationals Qualifier

## Skills

SolidWorks, Fusion360, FEA, MATLAB, Simulink, Manual Machining, CNC Machining, Welding, Arduino, Woodworking