Payton Lee

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EDUCATION

Northwestern University **Evanston, IL**
Bachelor of Science in Mechanical Engineering *Anticipated Graduation June 2028*
GPA: 3.79/4.00

PROFESSIONAL EXPERIENCE

Robotic Matter Lab **Evanston, IL**
Undergraduate Researcher *October 2025 - Present*

- Fabricated and characterized handed shearing auxetics (HSAs), a soft robotic actuator, over 8 weeks of full-time research funded by a $4,000 Summer Undergraduate Research Grant; tested 20+ actuators for strain, force and resistivity; manuscript in preparation
- Built 10+ Python/Arduino scripts that synchronize actuation with data acquisition, enabling simultaneous strain, force, and resistivity data tracking
- Developed a Python video-tracking pipeline that extracts actuator displacement from 30+ test videos via marker tracking, producing position vs time datasets for analysis
- Named Fletcher Undergraduate Research Grant Finalist (top 10 of 300+ summer grant recipients)

Locked Out **Evanston, IL**
Founder, Lead Engineer *April 2026 - Present*

- Founded and lead an 8-person escape room design team; built 12+ puzzles with microcontroller circuits, RFID sensors, and 20+ FDM-printed parts, raising over $1600 for charity across 2 events and 100+ participants
- Prototyped the concept in 2025 as a high school project ($1,500 more for the Cooper Ryan Ramos Memorial Fund)

PROJECTS

Robotic Drummer (Northwestern University Robotics Club) **Evanston, IL**
Engineer, Machinist *January 2026 - Present*

- Redesigned and machined the torso driver for a drummer robot, using conversational milling, waterjet cutting, and FDM printing; produced GD&T drawings for faculty sponsors
- Presented design decisions and FEA results at the Mechanical Engineering Symposium (FOS of 3–34 across critical components under static loads)
- Currently upgrading to a pair of custom-designed 7 DOF arms, assembling 50+ parts, performing static loading tests

The Friendly Paws **Evanston, IL**
Engineer, Designer *September 2025 - December 2025*

- Interviewed shelter staff to define requirements, then designed and built a wireless light-alert system to prevent dog-to-dog incidents for under $150 in 10 weeks; delivered to the Evanston Animal Shelter

SKILLS

CAD/Design: Onshape, Fusion 360, GD&T, Ansys
Fabrication: Manual milling, waterjet, laser cutter, FDM 3D printing
Electronics/Software: KiCad, embedded systems, C++ (Arduino), Python, MATLAB

ADDITIONAL

Capstone Class, St. Charles East High School **St. Charles, IL**
Mentor *September 2026 - Present*

- Mentoring 3 high school students who are developing a product for efficient football helmet cleaning

Infinity Tutoring **St. Charles, IL**
Self-Employed Freelancer (Math, Chemistry, SAT prep) *August 2024 - Present*

- Tutor 4+ clients in math, chemistry, and SAT prep