

Leah Lee

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EDUCATION

University of Illinois at Urbana-Champaign
B.S. in Mechanical Engineering

Expected Graduation: Dec 2027
GPA: 3.91/4.00

Skills

CAD & 3D Modeling: Fusion 360, AutoCAD, OnShape, NX, SolidWorks, Creo

Manufacturing & Prototyping: 3D Printing (FDM/SLA), Carbon Fiber Layup, Soldering, Injection Molding, Laser Cutting, Manual Milling, CNC Mill, PCB Fabrication, Rapid Prototyping, Computer Aided Manufacturing System

Course Works: Design for Manufacturability, Numeric Control of Manufacturing Processes, Thermodynamics, Fluid Mechanics

Programming: Python, Java, Matlab, Simulink, Embedded Systems

Publications

GelSphere: An Omnidirectional Rolling Vision-Based Tactile Sensor for Online 3D Reconstruction and Normal Force Estimation

Leah (Seoyeon) Lee[†], Mohammad Amin Mirzaee[†], Wenzhen Yuan

Submitted to IEEE/RSJ IROS 2026

Experience

Climbing Bot, Novel Mobile Robots Lab

Champaign, IL | Aug 2025 – Present

Undergraduate Researcher, Advised by Prof. Justin Yim

- Design and build self-actuated surface inspection robot using vision-based tactile sensing
- Diagnose performance variation and implement mechanical countermeasures to improve repeatability
- Develop test fixtures and controlled test procedures to evaluate system performance and verify design changes
- Rapidly prototype and modify components using CAD and fabrication tools to resolve mechanical reliability issues

GelSphere, RoboTouch Lab

Champaign, IL | Feb 2025 – Present

Undergraduate Researcher, Advised by Prof. Wenzhen Yuan

- Develop new vision-based tactile sensor for large-area robotic surface scanning
- Develop repeatable fabrication and calibration procedures to ensure consistent hardware performance across builds
- Built calibration pipeline and evaluated accuracy using dot-product/MSE/MAE metrics.
- Conference paper submitted to IROS

Somansa

Seoul, South Korea | June 2025 – Aug 2025

Network Engine Team Researcher Intern

- Built RAG system for ZTNA documentation using LLMs, embedding models, and chunked retrieval
- Evaluated model performance using prompt-based tests and record accuracy comparisons
- Developed Python scripts to crawl technical websites and convert PDF/HTML documents into trim training data

Foellinger Auditorium

Champaign, IL | Feb 2025 – Present

Event and Lobby Staff

- Operate audio-visual systems and manage venue layout for lectures, exams, and performances with 1,300+ attendees
- Provide on-site support and directions to maintain smooth event operations
- Control room access and enforce venue policies in coordination with event staff

Project Highlights

Illini Solar Car

Champaign, IL | Aug 2025 – Present

- Lead design and fabrication of fairing door molds using 3D-printed tooling and carbon fiber/fiberglass composite layup
- Fabricate and assemble vehicle components, adjusting part interfaces and installation methods under schedule constraints
- Work with cross-functional teams to resolve fitment and assembly conflicts during vehicle integration

ArachnoBot ASME — 1st Place, Distinguished Robotics (200+ exhibits)

Champaign, IL | Jan 2025 – May 2025

- Designed and built terrain-adaptive robot for University of Illinois Engineering Open House
- Implemented 4-bar linkage mechanism to achieve stable movement across varied surfaces
- Presented project to 1,000+ visitors, explaining design and demonstrating robot operation

Assistive Technology Development Project

Champaign, IL | Aug 2024 – May 2025

- Designed and prototyped assistive devices under one-handed accessibility constraints
- Optimized designs for single-print, short print time, lightweight structure, and simple one-hand assembly and use
- Collaborated with ASME team and IATP project manager to meet functional and safety requirements

Leadership

Engineering Council, Undergraduate Research in Scientific Advancement

Champaign, IL | Aug 2025 – Present

Vice President (2026), Secretary (2025)

- Lead weekly committee meetings and manage logistics, including room reservations, scheduling, and internal documentation
- Coordinate multiple stakeholders and track progress to meet project deadlines
- Manage Canvas course site and coordinate directly with faculty and graduate mentors to support participant progress

[†]Equal contribution.