

EDUCATION

University of Illinois at Urbana-Champaign

B.S. in Bioengineering

Champaign, IL

Aug. 2024 - Expected May 2028

- **Relevant Courses:** Modeling Human Physiology, Tissue Engineering, Biomedical Instrumentation, Quantitative Physiology, Cellular Bioengineering, Conservation Principles, Data Science Programming Methods

WORK EXPERIENCE

Maman Biomedical

Mechanical Engineering Intern

Chicago, IL

June 2026 - Present

- Advanced Port's design transfer to its production-intent Formlabs platform, establishing print parameters that translated transferred CAD designs into functional, reproducible builds and de-risked the transition from R&D fabrication toward controlled manufacturing.
- Established Port's post-processing workflow, defining print workup, cleaning and curing parameters that cut part-to-part variability by 35% and reduced processing time by 50%, enabling repeatable part quality across 4 production runs and progression toward manufacturing process validation.
- Built the engineering test infrastructure for Port's critical mechanical requirements, developing fixtures and methods to quantify needle strength and penetration force across 5 test samples, alongside FEA modeling to inform design limits and future verification testing.

Wagoner Johnson Lab

Undergraduate Research Intern

Champaign, IL

Sep. 2024 - Present

- Designed and deployed a full-stack MRI relaxometry web application (FastAPI + React) for quantitative T1/T2 mapping of preclinical MRI data, supporting DICOM, NIfTI, and Bruker ParaVision study formats with automatic multi-scan detection and combination.
- Developed a vectorized variable-projection (VARPRO) fitting engine that replaced a per-voxel scipy.optimize loop with whole-volume NumPy batch fitting, sustaining 90–180k voxels/sec; containerized the app (multi-arch Docker) and deployed it to Google Cloud Run with an automated Puppeteer-based regression suite.

Biosensors Lab

Undergraduate Research Intern

Champaign, IL

Aug. 2025 - Aug. 2026

- Constructed XR tool chains for biosensor applications, including real time pass through frame access and overlay rendering on the Meta Quest 3 platform for surgical visualization workflows.
- Implemented an AI-driven pipeline to help distinguish malignant and healthy tissue in real time.

ACTIVITIES

MedLaunch

Professional Development Chair/Open-Aid Design Lead

Champaign, IL

Aug. 2025 - Present

- Created a patient-centered orthotic for safer utility-knife operation that improves the community partner's package opening ability by 60%.
- Secured 5+ partners for MedLaunch speaker events, workshops, and collaboration opportunities, strengthening cross-functional exposure to early-stage medical innovation.

CERTIFICATIONS AND SKILLS

Certifications:

SolidWorks Design Associate

Dassault Systèmes | June 2026

SolidWorks Simulation Associate

Dassault Systèmes | July 2026

Mechanical Design & Analysis: Solidworks, Fusion 360, Inventor, Siemens NX, GD&T, Solidworks Simulation/Flow

Medical Device Testing and Documentation: IQ/OQ protocol, Regulated Documentation, Lab Notebooks, Experimental Protocols, Test Procedures, Sample/Test Article Preparation

Testing & Validation: Starrett Digital Force Tester, Universal Testing Machine, Handyscan 3D Scanner

Data and Software: Python, MATLAB, Excel, R C/C++, Docker, GCP, React, FastAPI, Git, 3D Slicer, MicroDicom, VS Code