

# Alexis Ying-Shan Lee

## Biomedical Engineering

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### Contact

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### Education

University of Colorado Boulder  
4.0 GPA  
Master's  
Biomedical Engineering

### Key Skills

#### Computer Skills:

VBA, Excel, MATLAB, CREO, Solidworks, JMP

#### Language Skills:

Fluent in Mandarin, Taiwanese and English

#### General Skills:

Lab experience for chemistry and tissue testing  
Machining experience  
Problem solver, detail oriented, leadership,  
communication, advocacy

### Relevant Coursework

General and Organic Chemistry, Biology, Physics,  
Engineering Projects, Calculus, Linear Algebra,  
Differential Equations, Computing,  
Biomaterials, Biotransport, Statics and Structures

### Awards and Associations

- St. Joseph Hospital Volunteer Scholarship Recipient
- Kiwanis Scholarship Recipient
- Global Medical Brigades
  - VP of Travel, Fundraising & Social Outreach Chair
- Volunteer at St. Joseph Hospital
- Biomedical Engineering Society
- Disability Services Notetaker
- Resident Advisor
- Medtronic Intern Ambassador

### Summary

- Accelerated Master's Student in Biomedical Engineering
- Program Management Office (PMO cross-functional Medtronic) industry experience
- R&D Engineering Experience (Medtronic Surgical Innovations & Medtronic Structural Heart & Aorta)
- Physician and patient interaction experience through volunteering at clinics abroad (Global Medical Brigades), St. Joseph Hospital, and with Medtronic

### Experience

#### February 2023 – February 2025

Pathways Student Trainee Biological Science – NIST • PML

- Prototyped and developed a retinal eye phantom for OCT by characterizing physical properties of Polydimethylsiloxane and Titanium Dioxide
- Presented initial findings of prototype at the 2024 SPIE Conference

#### June 2024 – August 2024

R&D Engineering Intern – Medtronic Structural Heart & Aorta • Therapy Delivery

- Designed benchtop heart model for improved anatomical accuracy with SolidWorks through surface modeling
- Led and ran simulated use tests on device prototypes
- Volunteered to lead and plan intern events with Medtronic Early Career Team to build community within the intern cohort

#### June 2022 – August 2022 & June 2023 – August 2023

R&D Engineering Intern – Medtronic Surgical Innovations

- Worked with a team on a new novel technology for the next generation of LigaSure devices and generator
- Designed and built functional and cosmetic prototypes of next generation card connect plug
- Led and ran a Design of Experiments study with Tissue Research Group
- Held position as the Communications Lead for both internships with the Medtronic Early Career Team and coordinated events
- Certified for Leadership Skills and Professional Skills for Medtronic

### Projects

#### June – August 2024

Prototype of anatomical heart model for Medtronic R&D • Designer

- Designed prototypes of anatomical heart models for improved accuracy
- Used spatial visualization skills to design and analyze

#### June – August 2023

Prototype of Next Generation LigaSure Plugs for Medtronic R&D • Designer

- Designed prototypes of next generation LigaSure Plug using CREO
- Used spatial visualization skills to design and analyze

#### June-July 2022

Design of Experiments for Medtronic R&D • Researcher

- Designed a study with 6 factors to help with the decision making of the next generation of LigaSure Devices
- Used critical thinking skills to analyze data