

# LUCAS LASSINGER

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## EDUCATION

University of Rochester, Center for Medical Technology and Innovation  
Master of Science Biomedical Engineering

Expected May 2022

University at Buffalo, The State University of New York  
Bachelor of Science Biomedical Engineering

Conferred May 2021

## RELEVANT PROJECTS AND EXPERIENCES

**Research Assistant | University of Rochester the Institute of Optics** November 2021 – Present

- Evaluating data from IRB study to evaluate bruising using alternative light sources for people with a variety of skin tones
- Using MATLAB to perform image analysis using data acquired from human subjects

**Safe Trocar Insertion Mechanism | University of Rochester CMTI**

August 2021 – Present

- Identifying a problem in laparoscopic surgery and confirming with voice of customer feedback
- Conceptualizing, prototyping, and analyzing device with 3D printing, finite elements analysis, and failure mode effects analysis
- Arranging FDA pre-submission meeting and managing design history folder for a class 2 medical device

**Project Management Liaison | University of Rochester**

September 2021 – Present

- Serving as a teaching assistant for senior design course
- Driving communications between students, supervisors, customers, and professors to ensure project is moving forward efficiently

**Novel Bronchoscope Swivel Adapter**

January 2021 – Present

- Prototyping a swivel adapter to improve stability of flexible bronchoscopy, improving the efficacy and accuracy of the procedure
- Communicating with Pulmonary Fellow (project sponsor) to optimize device for physician needs
- Led all CAD and FDM aspects of development
- Device is currently in University at Buffalo Technology Transfer process for patent preparation

**Anastomosis Leak Detection Device | Limitless Medical Technologies**

September 2020 – May 2021

- Prototyped an anastomosis leak detection device for early and more accurate diagnosis
- Developed grant proposals for medical start-up while following lab procedures of electrospinning and nanoparticle synthesis to develop and characterize leak-sensing film

**Fusion 360 Campus Ambassador | Autodesk**

September 2020 – May 2021

- Deliver on campus and virtual training and workshops about CAD, CAM, SIM, and Generative Design
- Develop Tinkering modules and other educational content for the Design Studio and Digital Manufacturing Laboratory
- Promote awareness of Autodesk programs while providing technical support to students, faculty, and campus clubs

**Healthcare Career Advantage Development Intern | UPMC Chautauqua WCA Hospital**

June – July 2018

- Participated in a six-week summer internship focused on connecting with and shadowing physicians
- Introduced to 12 medical specialties claiming over 150 hours of shadowing

## ADDITIONAL PROJECTS

**Sit to Stand Assistive Device**

August – December 2020

- Collaborated on a team of 5 Biomedical Engineers to develop a sit to stand rehabilitation device
- Designed a device with core design requirements of patient safety and ease of use
- Developed mechanical, electrical, software, and control systems designs in 5-month period

**Left Upper Limb Prosthetic capable of American Sign Language**

May – July 2020

- Designed a prosthetic capable of communicating through American Sign Language for a left upper limb amputee
- Used Fusion 360, CURA, and TinkerCAD to create and slice model, simulate electronics, and write complete Arduino code
- Drove project from ideation to completion in a six-week timeframe

**Remodeling a Hand Rehabilitation Device | Project Manager**

October 2019 – June 2020

- Facilitated organization and communication among 9 team members and helped to steer and catalyze project
- Reverse engineered, 3D modeled, and printed an improved SaeboFlex device using Autodesk Fusion 360 and CURA
- Worked to improve the design and development of the device to allow for more customized and cost-effective therapy

**Restoring Depth Perception for the Partially Blind**

September - November 2018

- Researched neuroscience and eye interactions to develop a prototype pair of “smart glasses” using SolidWorks
- Developed a plan to use optical technology to provide function to smart glasses and restore user’s binocular vision

# Lucas Lassinger

## ADDITIONAL EMPLOYMENT EXPERIENCES

### Self Determination Assistant | *The Resource Center*

May 2020 – Present

- Create the opportunity for the achievement of greater independence, integration, and individualization for a student with autism
- Provide the necessary support to empower individuals to be successful in an environment of their choosing

### Substitute Teacher | *Jamestown Public Schools*

January 2018 – Present

- Fulfilling lesson plans left by the teacher and documenting daily while motivating students to always do their best
- Managing classroom behavior while resolving altercations amongst students

### Technology Ministry Assistant | *Hillcrest Baptist Church*

May 2020 – August 2020

- Leveraged available technology to improve Church's reach in the face of COVID-19
- Produced five live-stream videos and two podcasts each week
- Planned and executed technology upgrades estimated to cost upwards of \$20,000

### Resident Advisor | *University at Buffalo*

August 2018 – May 2020

- Promoted events and informational session to upwards of 800 students
- Responded to emergencies and helped mediate resident conflicts
- Educated new college students on guidelines and living habits

### Family Ministries Intern | *Hillcrest Baptist Church*

May 2018 – August 2019

- Planned, organized, coordinated, and led activities for children and youth grades K-12
- Facilitated networking with youth, families, staff, and ministry volunteers to build relationships, relay information, and follow up on specific events, ministry needs, projects, and objectives

### Machine Operator | *Chautauqua Precision Machining*

December 2017 – January 2018

- Operated Brown and Sharpe screw machines
- Performed daily startup, shutdown, loading, unloading, and statistical process controls while referencing engineering drawings
- Assisted in shipping and receiving as needed

## SKILLS

- Languages: MATLAB, Python
- Technologies: Autodesk Fusion 360, 3D Printing, Arduino, CURA, TinkerCAD, SolidWorks, Adobe Lightroom Photoshop

## LEADERSHIP ACTIVITIES

### Secretary | *Biomedical Engineering Society*

June 2020 – June 2021

- Manage all communications for club events including promotions, reminders, scheduling, and meeting minutes
- Report to student government to provide evidence of meeting all requirements
- Co-founded BMES Intramural Teams and UBMaking event to provide project-based experiences for tactile learners

### Participant | *University at Buffalo Student Leadership International Dialogue and Exchange (SLIDE)*

May – June 2019

- Traveled to London, England, and Paris, France studying leadership and diversity.
- Participated as a team Day Leader to assist in group navigation of the new environment.
- Engaged in relevant dialogue about University at Buffalo with Dean of Students and Director of Student Engagement.

### Student Mentor | *Seneca Street CDC*

February – May 2018

- Served as a student mentor to children in the Babcock Community of Buffalo during an after-school program
- Assisted students (K-8) with homework, dinner, and recreation time on a weekly basis

## ORGANIZATIONS

Biomedical Engineering Society | Engineering World Health | UB e-Nable | UB Student Leadership International Dialogue and Exchange (SLIDE) | UB 3D Printing Working Group (3DPWG)