

LUCAS LASSINGER

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EDUCATION

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

Conferred May 2022
3.72 GPA

Relevant Coursework: Medical Device Design, Introduction to Quality Engineering, Clinical Practicum, Applied Human Anatomy, General Management of New Ventures, FDA & IP Commercialization, Introduction to Augmented and Virtual Reality, Applied Nanoscience and Nanoengineering

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

Conferred May 2021

Relevant Coursework: Research and Design in BME, Biomedical Instrumentation, Biosystems Engineering, Orthopedic Science and Engineering, Principles of Medical Imaging, Techniques in Medical Imaging, Prototyping Prosthesis, Rehabilitation Engineering, Biomedical Circuits and Signals, Work Physiology, Machine Learning for Biomedical Data

RELEVANT PROJECTS AND EXPERIENCES

R&D Engineer | Med Dimensions

July 2022 – Present

- Develops of custom surgical guides and educational models using CAD, additive manufacturing, and casting techniques
- Drives projects from onboarding through production scale-up with use of rapid prototyping
- Manages production schedule to consistently achieve sales deadlines

Safe Trocar Insertion Mechanism | University of Rochester CMTI Team Member

August 2021 – Present

- Identifying a problem in laparoscopic surgery and confirming with voice of customer feedback from 9 key opinion leaders
- Conceptualizing, prototyping, and analyzing instrument with 3D printing, finite element analysis, and failure mode effects analysis
- Arranging FDA presubmission meeting and managing design history folder for a class 2 medical device
- Winners of Finger Lakes Regional Semi-finals of the New York Business Plan Competition in the Health and Wellbeing category
- Winners of First Annual University of Rochester School of Medicine and Dentistry- Ain Center for Entrepreneurship Big Ideas in Science and Medicine Pitch Competition

Research Assistant | University of Rochester the Institute of Optics

November 2021 – May 2022

- Evaluated data from IRB study to evaluate bruising using 7 alternative light sources for people with a variety of skin tones
- Developed MATLAB scripts to perform image analysis using data acquired from 14 human subjects

Novel Bronchoscope Swivel Adapter | Engineering Design Consultant

January 2021 – February 2022

- Prototyped a swivel adapter to improve stability of flexible bronchoscopy, improving the efficacy and accuracy of the procedure
- Communicated with Pulmonary Fellow (project sponsor) to optimize invention for physician needs
- Led all CAD and FDM aspects of development

Anastomosis Leak Detection Patch | Limitless Medical Technologies Research Engineer

September 2020 – May 2021

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

LEADERSHIP EXPERIENCES

Project Management Liaison | University of Rochester

September 2021 – May 2022

- Served as a teaching assistant to 2 teams of 5 students for senior design course
- Drove communications between students, supervisors, customers, and professors through virtual meetings and lab sessions

Fusion 360 Campus Ambassador | Autodesk

September 2020 – May 2021

- Delivered 16 on campus and virtual training and workshops about CAD, CAM, SIM, and Generative Design
- Developed 12 Tinkering modules and other educational content for the Design Studio and Digital Manufacturing Laboratory
- Promoted awareness of Autodesk programs while providing technical support to students, faculty, and campus clubs

Secretary | Biomedical Engineering Society

June 2020 – June 2021

- Managed all communications to 200 club members including promotions, reminders, scheduling, and meeting minutes
- Reported to student government to provide evidence of meeting all requirements
- Co-founded BMES Intramural Teams to provide project-based experiences for 31 tactile learners

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

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- Reverse engineered, 3D modeled, and printed an improved SaebFlex device using Autodesk Fusion 360 and CURA
- Worked to improve the design and development of the rehabilitation tool to allow for more customized and cost-effective therapy

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

ADDITIONAL PROJECTS

Sit to Stand Assistive Device

August 2020 – December 2020

- Collaborated on a team of 5 Biomedical Engineers to develop a sit to stand rehabilitation device
- Designed a mechanism 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 2020 – 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

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

ADDITIONAL EMPLOYMENT EXPERIENCES

Self Determination Assistant | The Resource Center

May 2020 – Present

- Creates 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 – May 2022

- Fulfilled lesson plans left by the teacher and documenting daily while motivating students to always do their best
- Managed 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

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

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 AND INTERESTS

- Languages: MATLAB, Python
- Technologies: Autodesk Fusion 360, 3D Printing, Arduino, SolidWorks, Adobe Lightroom Photoshop
- Hobbies: Proud Dog Owner, Waterskiing, Downhill skiing, Rock Climbing, Cycling

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ORGANIZATIONS

Biomedical Engineering Society | Association for the Advancement of Medical Instrumentation | Engineering World Health
| UB e-Nable | Student Leadership International Dialogue and Exchange (SLIDE) | UB 3D Printing Working Group (3DPWG)