

Lara Zlokapa

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OBJECTIVE

I am eager to apply my engineering design, creative problem solving, and technical writing skills as well as my enthusiasm to empower others to live to their full potential. I enjoy taking on new challenges and developing innovative solutions.



EDUCATION

MIT (Massachusetts Institute of Technology)

Sept. 2020 - Dec. 2021 (Expected)

M.S., Mechanical Engineering

Folger Fellow

University of California, Berkeley (GPA 3.7/4.0)

Aug. 2016 – May 2020 (Expected)

B.S., Mechanical Engineering

Dean's Honors List Spring 2019, College of Engineering

Highlighted Courses: Orthopedic biomechanics; product development; feedback controls; material behavior.



SPECIAL SKILLS

Design/Modeling: SolidWorks, AutoCAD, Rhino, GD&T dimensioning and tolerancing, FEA, DFM, DFS, 3D printing, machine shop skills (end mill, lathe, etc.), soldering, laser cutting, water jet cutting.

Programming: MATLAB, Python (basic), LaTeX, HTML, CSS.

Writing/Communication: Business plan author, essay-writing teacher (high school level), team policy debater.

Languages: English (native), French (intermediate), German (beginner), Serbo-Croatian (beginner).



TECHNICAL EXPERIENCE

SuitX, Emeryville, California

May 2019 – Present

Engineering Intern

- Independently designing exoskeleton solutions that fit all body sizes for heavy lifting.
- CADding (in SolidWorks), FDM 3D printing prototype models, and performing user testing.
- Conducting SolidWorks FEA on all components and performing physical testing until failure.

Berkeley Expert Systems Technologies (BEST) Lab, UC Berkeley, CA

Sept. 2018 – May 2019

Research Intern, Drumming Prosthesis Project under Professor Alice Agogino

- Designed cost-effective drumming prosthetic for transradial amputees with team of 6 MEng, PhD students.
- Analyzed data of drummer surveys to establish design criteria.
- Designed adaptable, adjustable drumstick-spring holder for arm lengths for body-powered prosthetic.
- 3D printed body powered prosthetic parts using BioFlex and PLA on FDM 3D printers.

Human Powered Vehicles Team, UC Berkeley, CA

Co-President, Frame Subteam Lead

May 2018 – Aug. 2019

- Bike goal: design, manufacture, and race a bike at 70mph at the international IHPVA WHPSC competition.
- Coordinated overall design of bike and lead design of bike frame in 5-person subteam.
- Performed SolidWorks stress and deformation simulation tests on SolidWorks bike assembly CAD.
- Created physical wood and PVC pipe prototypes of bike to mimic welded metal frame.

Member, Fairing Subteam

Aug. 2017 – Mar. 2018

- Designed and 3D modeled aerodynamic tricycle fairing in SolidWorks and Fusion 360 in team of 5.
- Analyzed aerodynamic fluid flow of fairing 3D models in ANSYS.
- Performed carbon fiber lay-ups to create frame and fairing of vehicle.
- Vehicle won 3rd place overall, 2nd place Design Award, and the Craftsmanship Award out of 18 teams at ASME's E-Fest Human Powered Vehicle Challenge.

Applied BioMechanics, Alameda Island, CA

May 2018 – Jan. 2019

Engineering Associate in Accident Reconstruction Simulation

- Simulated vehicle collisions in HVE (an accident dynamics simulation program) using my 3D models.
- Laser scanned collision sites and vehicles and created 3D models of the scans in Rhino for 30+ court cases.
- Performed some manual mechanics and dynamics calculations to back simulation results.
- Prepared court exhibits based on analysis for Dr. Cheng's and Dr. Doehrty's expert witness testimonies.

EnableTech, UC Berkeley, CA

Jan. 2018 – May 2018

Member, Quadriplegic Gripper Project Team

- Designed and laser cut mechanical, cost-effective gripper in interdisciplinary team of 5 for quadriplegic user without grip strength to pick up objects from floor and shelf.
- 3D modeled hand grip for device in SolidWorks.

Berkeley Emergent Space Tensegrities (BEST) Lab, UC Berkeley, CA

May 2017 – Nov. 2017

Research Intern, 6-Bar Tensegrity Robot Project under Professor Agogino

- Designed, 3D modeled (Autodesk Fusion 360), 3D printed, and directed final production of end caps with improved durability and frictionless cable movement for 6-bar spherical tensegrity robot intended for search and rescue and as rover for Jupiter's moon Titan.
- Produced end cap dimension drawings in AutoCAD.
- Worked on overall 6-bar tensegrity robot design in team of 3 Ph.D. students and 3 undergraduate students.
- Soldered and assembled over 48 motor control circuit boards for 6-bar tensegrity robot.



LEADERSHIP & ACTIVITIES

Human Powered Vehicles Club, UC Berkeley, CA

Apr. 2018 – Aug. 2019

Co-President

- Managed all club operations and events (outreach, project management, resource management, overall timeline and scheduling, faculty sponsor coordination, subteam progress, sponsor relations, etc.).
- Created club budget, managed club expenses, and collaborated with sponsors (such as GM and Ford).
- Organized and scheduled all team activities (subteam progress, sponsor relations, outreach, etc.).

Society of Women Engineers, Berkeley, CA

Jan. 2017 – May 2017

Committee Member of the Month (March 2017), Shadow an Engineer Committee Member

- Coordinated externships with 13 major companies, including AutoDesk.
- Created and evaluated applications for externships, selecting 30 out of the 60 applicants.

Pioneers in Engineering (PiE), UC Berkeley, CA

Jan. 2017 – May 2017

Robotics Competition Team Mentor

- Mentored team of 10 El Cerrito High School students over 8 weeks for PiE robotics competition.
- Guided team's game strategy and analysis, robot design process, and building of actual robot.
- Awards team earned: 2nd place team, PiE Season Award, Software Award finalist.

Women in Science and Engineering, UC Berkeley, CA

Aug. 2016 – May 2017

Conference Committee Member

- Organized and created schedule for all-day, 200-person STEM conference in 15-person team.
- Introduced National Inventor's Hall of Fame inductee and led Q&A session at conference.
- Received and coordinated speakers at conference.
- Designed event website with WordPress.
- Publicized conference through announcements at 100-600 person classes.



HOBBIES

Swing dancing, hiking, violin (currently second violin in the UC Berkeley Chamber Orchestra), piano, cooking, swimming, drawing, crafts.