

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

University of California, Berkeley

Aug. 2016 – May 2020 (Expected)

B.S., Mechanical Engineering

- GPA: 3.637/4.00
- **Relevant Coursework:** Global product development (current); orthopedic biomechanics (current); mechatronics (current); heat transfer (current); dynamic control systems and feedback; bioinspired design; mechanical behavior of engineering materials; planar machinery design; engineering dynamics; fluid mechanics; solid mechanics; thermodynamics; circuitry.



SPECIAL SKILLS

Design/Modeling: SolidWorks, AutoCAD, Autodesk Fusion 360, GD&T dimensioning and tolerancing, DFM, 3D printing, machine shop skills (end mill, lathe, etc.), soldering, laser cutting, water jet cutting.

Programming: MATLAB, LaTeX, Python, basic Arduino, HTML, CSS.

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

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



TECHNICAL EXPERIENCE

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

Sept. 2018 – Present

Research Intern, Drumming Prosthesis

- Design cost-effective drumming prosthetic for transradial amputees with team of 5 MEng and 1 PhD student under Professor Alice Agogino.
- 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 – Present

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

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, 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

- 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 – Present

Co-President

- Manage all club operations and events (outreach, project management, resource management, overall timeline and scheduling, faculty sponsor coordination, subteam progress, sponsor relations, etc.).
- Create club budget, manage club expenses, and collaborate with sponsors (such as General Motors or Ford).
- Organize, schedule, and follow up on all team activities (subteam progress, sponsor relations, outreach, etc.).

Society of Women Engineers, Berkeley, CA

Career Options Committee Member

Jan. 2018 – May 2018

- Organized, facilitated, and coordinated Technical Writing panel with Sandia National Labs representatives and Academia Panel with three UC Berkeley engineering professors (audience of approximately 25 per event).

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

Jan. 2017 – May 2017

- 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.