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 - May 2022 (Expected)
M.S., Mechanical Engineering
Folger Fellow

University of California, Berkeley (GPA 3.7/4.0) Aug. 2016 – May 2020
B.S., Mechanical Engineering
Dean's Honors List Spring 2019, College of Engineering

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), Arduino, 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 – Feb. 2020
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 search and rescue robot.
- 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

UC Berkeley Girls in Engineering Summer Program May 2020 – Aug. 2020
Program Assistant
- Created lesson plans for virtual, 3-hour, hands-on, interactive Zoom classes of 100 middle school students.
- Led 80-100 middle school students through cardboard "robot" hand design and other activities over Zoom.
- Led discussions and learning exploration in breakout rooms of ten middle school students.
- Coordinated and trained 80+ adult volunteers over five weeks of camp for a high mentor-to-student ratio.

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.
- Received and coordinated speakers at conference. Led conference Q&A session.
- Publicized conference through announcements at 100-600 person classes.

HOBBIES

Swing dancing, hiking, violin, piano, cooking, swimming, drawing, crafts.