

Dixun Cui

dixuncui@berkeley.edu • (510) 990-7027 • linkedin.com/in/dixun-cui • dixuncui.com

Education

University of California, Berkeley

B.S. Mechanical Engineering

Minor in Electrical Engineering and Computer Science

Relevant Coursework: 3D Modeling, Manufacturing and Tolerancing, Statics, Mechanics of Materials, Dynamics, Data Structures, Thermodynamics, Planar Machinery, Robotics, Product Development, FEM, Mechatronics (IP)

GPA: 3.92 / 4.00

Expected Graduation: May 2022

Work Experience

Body Manufacturing Engineering Intern, Tesla Inc.

May 2021 - August 2021

- Led fixture design, fabrication, CMM certification, and part fitting for Semi Truck prototype shop builds
- Coordinated body shop recommissioning, including weld gun installs, operator training, and robot tooling
- Designated manual and auto spot weld processes and managed weld schedules and instructions

Mechanical Engineering Intern, Procter & Gamble

Jun 2020 - August 2020

- Executed process improvement and reliability projects on Always Infinity Pad manufacturing lines
- Reduced packing robot stops by 66% with installation and documentation of a vision reject system
- Generated \$13,000+ in annual material savings through PLC logic optimization and standardization

Head Teaching Assistant, UC Berkeley EECS Department

Jun 2020 - Present

- Managing course logistics and teaching sections for a ~1100 student electrical engineering course
- Received a student evaluation score of 4.8/5 for teaching effectiveness and communication

Undergraduate Researcher, Berkeley Computation and Cognition in Design Lab

Jun 2019 - Present

- Investigating collaborative teardowns and knowledge structures, in partnership with Autodesk Research
 - *Publication:* Wang, Y., Grandi, D., **Cui, D.**, Rao, V., and Goucher-Lambert, K. (2021). Understanding Professional Designers' Knowledge Organization Behavior: A Case Study in Product Teardowns. ASME International Design Engineering Technical Conferences - Design Theory and Methodology Conference.
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Projects

Human Powered Vehicle Team, *Team Lead*

Sep 2018 - Present

- Overseeing design, sourcing, and manufacturing of a custom recumbent bicycle capable of reaching 60 mph
- Built a 150+ part CAD assembly and performing FEA analysis to optimize frame strength/weight
- *Awards:* 2nd out of 90 teams in ASME HPV Design Event, 1st out of 50 teams in Innovation Event

Automatic Pizza Cutter, *Design of Planar Machinery*

Sep 2020 – Dec 2020

- Designed an adjustable-slice automatic pizza cutter using Geneva drive and slider-crank mechanisms
- Performed FEA analysis and generated 3D renders, animations, drawings, and a bill of materials

3D Printed Face Shields, *Personal Project*

Mar 2020 – Apr 2020

- Designed and 3D printed hospital-approved face shields using accessible materials with easy assembly
- Donated 200+ face shields to local hospitals until sufficient medical-grade PPE was procured

Other Projects: Snowboard Helmet Phone Mount, Sheet Roller Machine, CNC Bottle Opener, Wheelchair

Autonomous Docking Simulation, Voice Controlled Car, Wind Turbine Prototype, "Gitlet" Version Control System

Skills

Software: CATIA V5, 3DX, SolidWorks, AutoCAD, Fusion 360, MATLAB, LabVIEW, Simulink, Allen Bradley PLC, Python, ROS, Java, Arduino, C++, HTML/CSS, Microsoft Office, Adobe Illustrator

Manufacturing: Machine Shop (Mills, Lathes, Drills), GD&T, Tormach CNC, TIG Welding, CMM, 3D Printing, Laser Cutting, Material Property Testing, Soldering, Woodworking