

# JACKSON ZILLES

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## Education

University of California, Berkeley

Expected Graduation - Dec 2024

B.S. Mechanical Engineering

GPA: 3.5/4.0

### ❖ Relevant Coursework

3-D Modeling | FEA | Solid Mechanics | Product Development | Thermodynamics | Manufacturing & Design Communication | Material Behaviors | Fluid Mechanics | Electronics | Prototyping

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## Skills and Certifications

- ❖ **Technical Skills:** Parametric Modeling / DFM / Design for Assembly/ GD&T / PLM / Rapid Prototyping
- ❖ **Fabrication:** CNC Milling / FDM & SLA 3D Printing / Laser & Waterjet Cutting / Lathe / Engin. Drawings
- ❖ **Software Skills:** SolidWorks / Fusion 360 / MATLAB / Adobe Creative Suite / Microsoft Office Suite
- ❖ **Certifications:** Berkeley SCET Entrepreneurship Certificate / Berkeley Certificate in Design Innovation

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## Experience

R&D Intern – Stryker

May 2023 - Sept 2023

- ❖ Designed and prototyped a new multi-piece surgical device for use in multiple joint spaces, with all pieces designed for injection molded manufacturing then rapid hand assembly and loading
- ❖ Iterated CAD models in Solidworks PDM, undergoing regular design reviews and iterations, resulting in a completed CAD assembly and functional 3D printed prototypes used for testing
- ❖ Tested new and in development products with various instruments (Keyence, Instron, force gauges)
- ❖ Designed test fixtures and created industry standard reports of testing protocols and results

Product Design – BEAR Adventure Vehicles

Jul 2022 - Sept 2022

- ❖ Created modular interior design pieces for pickup truck bed campers in Fusion 360 to standardize layouts of base models and create a starting point for client customizations
- ❖ Created full-size augmented reality models to allow customers to visualize a camper before a build
- ❖ Collaborated with team members to improve design choices for cost and space limitations as well as standardize parts for use in various models, minimizing labor hours for manufacturing

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## Engineering Projects

Club Engineering Leader – Bioprinting @ Berkeley

Sept 2021 - Current

- ❖ Designed and prototyped a prosthetic hand with flexible joints from the ground up using Fusion 360, FDM and SLA 3D printing, with actuation from an Arduino microcontroller and servo motors
- ❖ Ran CAD and 3D printing workshops for over 50 students over 2 years, increasing club capabilities
- ❖ Targeting an integrated skin layer with sensors for 2-way feedback for increased user dexterity

Design and Prototyping Lead – Expanding Coffee Table

Feb 2023 - May 2023

- ❖ Designed a coffee table capable of expanding to a dining table via internal sliding rail mechanisms
- ❖ Performed FEA with Solidworks simulations to ensure load bearing abilities of 50lbs minimum, surpassed by over 400% in both open and closed configurations with appropriate materials
- ❖ Manufactured a full-scale prototype using a CNC mill, lathe, and other tools within one week, layering together plywood to achieve internal movement and all designed functions

Design and Manufacturing Lead – Adjustable Stool Backrest

Sept 2022 - Dec 2022

- ❖ Used Solidworks to design a backrest with three adjustable points, including a spring-loaded connection to the underside of a stool, capable of holding full reclined weight at multiple angles
- ❖ Utilized GD&T and engineering drawings to achieve accurate machining and appropriate fits
- ❖ Machined 14 individual parts using mill, lathe, water jet, 3D printer, band saw, and metal bending