ANDREW Y. CHEN

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EDUCATION

University of California, Berkeley — **Graduation anticipated: May 2022**
B.S., Mechanical Engineering, minor in Aerospace Engineering — GPA: 3.93/4.00

PROJECTS

Space Enterprise at Berkeley - UC Berkeley's Spaceshot Rocketry Team — **August 2018 – present**
President — March 2020 – present

- Oversaw the design, manufacturing, and static-fire testing of the propulsion system of *Eureka-1*, the team's first liquid-fuel (LOX/Methane) rocket. Created timelines for design, manufacturing, and system-level qualification and acceptance testing; led a CAD-forward design cycle using Onshape for collaboration; managed open design risks and cost-down drives during test-stand development
- Led the from-scratch development of *LAD-4*, a hand-made 6.3"-diameter, 9'-tall carbon-fiber/fiberglass composite rocket designed to flight-test critical recovery and avionics infrastructure for *Eureka* flights. *LAD-4* successfully flew in March 2020 to an apogee of 11193 ft AGL and a maximum speed of Mach 1.18, setting UC Berkeley records
- Oversaw $15,000 team budget, streamlined internal reimbursement process, and managed multiple financial accounts. Filed for and obtained 501(c)3 non-profit status; increased year-over-year donation revenue by over 500%

WORK EXPERIENCE

Tesla — **June 2021 – August 2021**
Intern, Mechanical Design Engineering — Palo Alto, CA

- Developed a mechanical datuming and fastening strategy for the placement and mounting of PCBAs without risk of damage to electronic components or battery cell parts; oversaw a cross-functional team, including the selected contract manufacturer (CM), in the design and mechanical simulation-based validation of fasteners
- Spearheaded a testing campaign to identify the root cause of delamination failure in an adhesive bond; recommended an appropriate surface treatment to provide a 3X increase in adhesive strength; validated design changes using a series of lap-shear tests; communicated new functional requirements and initiated cost-down measures with CM for this part
- Designed a fluid-sealing foam surface to protect battery components from structural adhesive dispensed during module integration; characterized the compression behavior of the foam and quantified resulting loads and deflections on cell array parts; demonstrated the sealing functionality of the part using a fully 3D-printed prototype

HP Labs — **January 2021 – May 2021**
Intern, Multi Jet Fusion (MJF) Digital Twin Plastics Team — Palo Alto, CA

- Quantitatively evaluated mechanical properties of MJF-printed parts as a function of print geometry and nesting properties (location and orientation within the build volume) by conducting tensile, flexure, and impact tests following ASTM standards. The experimental design involved 1500+ test specimens printed in polyaniline-11 and polyaniline-12 spread across nine printing buckets
- Conducted data analysis in Python (primarily with `Pandas` and `matplotlib`) to isolate and visualize trends in strength, stiffness, energy absorption, and dimensional accuracy based on packing properties and material selection

Formlabs — **September 2020 – December 2020**
Intern, Mechanical Engineering - SLA Program — Somerville, MA

- Designed and built a closed-loop, temperature-controlled testbed for the development of a filtration system for volatile organic compounds (VOCs) generated from heated resin; demonstrated autonomous control of resin temperature to within 0.5°C and removal of 45% of generated VOCs using an activated charcoal filter
- Redesigned components in the linear drive system for an automated wash solution to increase stiffness by a factor of six and address lifetime reliability concerns; built in-house prototypes and validated changes
- Optimized solvent agitation parameters to improve automated wash performance in SLA post-processing; designed a screening experiment to isolate and tune key wash parameters; created and applied quantitative metric to empirically characterize and compare part cleanliness as a function of wash parameters