

# RYAN CHIANG

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## EXPERIENCE

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**Qualification Engineer Intern** | Planet Labs | San Francisco, CA

May 2024 - November 2024

- Engineered thermal data acquisition and logging platform using Raspberry Pi and Linux with automated database integration for real-time visualization across qualification, manufacturing, and electrical teams
- Validated mechanical test fixture designs with bolt and material stress analysis
- Automated satellite jitter characterization using Python, cutting test time by 80%
- Designed thermal chamber for mechanical testing across temperatures, reducing purchasing costs by \$35,000

**Mechanical Engineering Intern** | Alef Aeronautics | San Mateo, CA

March 2024 - May 2024

- Reduced cabin mount weight by 15% with material selection and DFM improvements
- Redesigned hardware enclosure, replacing friction-fit assembly with threaded fasteners to improve reliability
- Commissioned and calibrated a 1x1x1 meter 3D printer

## RESEARCH

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UAV Payload Attachment for Moisture Analysis of Concrete Structures

December 2023 - Present

Video and Image Processing Lab | University of California, Berkeley

- Reduced payload weight by 35% through structural redesign and material transition from aluminum to carbon fiber
- Designed and implemented a Bluetooth-based data logging system for real-time moisture sensing
- Implemented RANSAC clustering with GPS integration to map hydration values to precise coordinates

## PROJECTS

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Capstan Driven Robotic Finger | Personal Project

- Designed and built electromechanical finger prototype with DC motor actuation, force sensing resistors, capstan cable transmission, and potentiometer feedback for real-time PID joint control
- Implemented GUI and UART communication for manual teleoperation and finger mirroring via computer vision
- Developed a capstan torque test with load-cell instrumentation, quantifying configurations for torque transfer

360 Degree Security Camera | Solo Project, PCB Design Course

- Reduced product size by 65.1% with body, pitch mount redesign and custom PCB board
- Designed PCB layout with stepper motor actuation, ESP32 chip, and camera through SPI communication
- Manufactured custom body and rotating mechanism

## SKILLS

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*Fabrication:* 3D Printing, FDM Printing, CNC, PCB Design & Fabrication, Soldering, TIG Welding, Lathe & Mill

*Software:* Python, C/C++, MATLAB, SOLIDWORKS, SOLIDWORKS CAM, KiCAD, Creo, Onshape, Fusion 360, 3DS Max

## EDUCATION

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**University of California, Berkeley | Fung Institute for Engineering Leadership**

May 2026

MEng Mechanical Engineering

**University of California, Berkeley | College of Engineering**

May 2025

B.S. Mechanical Engineering

GPA 3.81/4

*Accolades:* TBP (Top 5% Engineering Class of 1058)

*Relevant Courses:* Mechatronics, Design of Microprocessor-Based Mechanical Systems, Modeling and Simulation of Advanced Manufacturing Processes, Model Predictive Control, Heat Transfer, Mechanics of Materials, Static and Dynamic Mechanics, Fluid Mechanics, Data Analysis