

RYAN CHIANG

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EDUCATION

University of California, Berkeley | College of Engineering

B.S. Mechanical Engineering

Expected May 2025

GPA 3.852/4

Relevant Courses: Manufacturing & Design, Advanced 3D Modeling, Mechanics of Materials, Statistics and Data Science, Static and Dynamic Mechanics, Fluid Mechanics, Thermodynamics, Dynamic Feedback Systems, Experimentation

Accolades: Tau Beta Pi Honors Society (Top 5% Engineering Class), BCDI Design Certificate, SCET Certificate

RESEARCH

Moisture Meter Drone to Detect Damage in Concrete

December 2023 - Present

Professor Avidah Zakhori's Lab | *University of California, Berkeley*

- Designed rigid housing for hardware and balanced drone for stability and weight: flight time from 5 sec to stable
- Sniffed moisture meter data through BLE interception using ESP32 in C to map structural damage on buildings
- Selected choices of materials through FEA and stress tests to determine stiff carbon fiber rods and PETG housing

WORK EXPERIENCE

Senior Consultant (Contract) | Cruise | San Francisco, CA

September 2022 - May 2023

- Designed a model autonomous car via 3DS Max, sparking Gen Alpha autonomous vehicle exposure by 40%
- Created a mid-fidelity DIY city playset with autonomous cars to improve Gen Alpha sentiment score by 24%
- Mapped leading competitors for Cruise LLC via Tableau to influence 50% more targeted advertising toward Gen Z

Network Engineer Intern | Atos | Norco, CA

May 2022 - August 2022

- Designed mounting platforms for 400 surveillance cameras for video analytics via CADD
- Spearheaded the redistribution of \$50k in surveillance spending to server installation via DevOps
- Installed video surveillance hardware for predictive failure and preventative maintenance across 7 production lines

PROJECTS

3D-Printer Automatic Print Removal

- Designed linear actuating system via herringbone gears and rail driven by 12V, max torque 0.711 Nm, DC motor
- Analyzed the loading conditions on the push-bar via FEA, resulting in a max von Mises stress 0.67 MPa and FOS of 2
- Formulated 8 GD&T drawings of parts using fit and tolerance specifications data

2-in-1 Knife with Built-in Sharpener

- Devised a high-fidelity knife with a high carbon steel blade, CNC fabricated sharpener, and 3D printed handle
- Extensively prototyped via CADD (SolidWorks & Shapr3D), FDM, and Polyjet 3D printing (Polyjet Objet Connex)
- Analyzed strength of product through FEA, achieving a max von Mises stress of 13.5 MPa and min FOS of 2

Automatic Coffee Maker

- Automated coffee making using IoT and MQTT protocols to turn on/off, log temperature, and receive updates
- Utilized an ESP32, Servo Motor, LED, Button, and Thermocouple inside a FDM printed housing via CADD
- Integrated a Discord channel via IFTTT to communicate coffee temperature and statuses

Mechanical Push Latch

- Invented push latches via CADD and FDM with max von Mises stress 0.16 MPa and a FOS of 2
- Marketed the product for 80% profit margin delivering to local carpentry shops
- Designed with affordability in mind (design-to-cost), reducing the manufacturing price to ~\$0.10 per latch

SKILLS

Technical Skills: FDM Printing, GD&T, Hardware, Soldering, ESP32, TIG Welding, Lathe and Mill, CNC, Injection Molding

Software: Solidworks, Creo, Solidworks Simulation, MATLAB, Fusion 360, AutoCAD, Shapr3D, 3DS Max, Python, C, Java, HTML, CSS, Javascript, React.js, Bootstrap, Figma, Adobe Illustrator, Photoshop