

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, Mechanics of Materials, Advanced 3D Modeling, Statistics and Data Science, Static and Dynamic Mechanics, Fluid Mechanics, Thermodynamics, Dynamic Feedback Systems, Experimentation

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

RESEARCH

Measuring Concrete Structural Integrity in Buildings via Drone

December 2023 - Present

EECS Department | *University of California, Berkeley*

- Performed experimental stress tests to design carbon fiber and PLA frame under strict weight requirements
- Stabilized drone flight via load testing to achieve weight of 220g and minimizing moment of inertia
- Designed point-to-point hardware architecture with ESP32 in C to generate concrete integrity heatmap

EXPERIENCE

Web Development Director | *SAAS Berkeley* | *Berkeley, CA*

January 2022 - Present

- Performed leadership duties within 6 project teams to iteratively develop website features within deadlines
- Redesigned the full front end of website from scratch via Bootstrap, leading to 42% increase in user retention
- Developed the current design and branding of SAAS, increasing applicants by 150% compared to previous years

Network Engineer Intern | *Atos* | *Norco, CA*

May 2020 - August 2021

- Designed custom PLA mounting platforms for 100 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, PCB Design, Soldering, ESP32, Carpentry, TIG Welding, Lathe/Mill, CNC

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