

# ERIK CONTRERAS

# MECHANICAL ENGINEER

An interdisciplinary mechanical engineer with a background in rapid prototyping, CAD modeling, and product design. Hands-on approach when it comes to problem solving.

Phone: (650) 862-6811

Portfolio Site: <https://erikcontreras.com/>

Email: ehans1c@gmail.com

CAD Work: <https://www.erikcontreras.com/3d-freebies>

## KEY SKILLS

- **CAD // 3D Modeling** [Solidworks, AutoDesk Inventor, AutoDesk AutoCAD, Fusion 360]
- **Rapid Prototyping** [3D Printing, CNC Milling, Woodworking, Welding, Metal Machining]
- **Electronics** [Soldering, PCB Repair, Electronics Repair/Hacking]

## EDUCATION

**University of California, Davis | M.S. in Mechanical Engineering (2019-2024)**

- MAE 252 - Autonomous Robotics (4.0)
- MAE 256 - Sustainable Manufacturing and Design (4.0)
- MAE 298 - Modern Manufacturing Technologies (4.0)

**University of California, Davis | M.F.A. in Design (2020 - 2021)**

**University of California, Davis | B.S. in Mechanical Engineering (2010 - 2015)**

## ENGINEERING EXPERIENCE

**UC Davis Engineering Dept. (Jan 2019 - Dec 2021) | Lecturer / Teaching Assistant; Davis, CA**

- Taught two-hour studio sections where students learned how to develop prototypes for either the: 1) UC Davis Student Farm, or 2) UC Davis Betty Irene Moore School Of Nursing.
- Provided lectures on how to use open source boards (Arduino Uno, and Raspberry Pi) and basic electronic components for prototype development.
- Troubleshoot hardware and software issues for student teams

**MHC Engineers Inc. (June 2016 - Feb 2017) | Mechanical Engineer; San Francisco, CA**

- Designed HVAC and plumbing systems that passed CA Building Code Regulations and Title 24 using AutoCAD.
- Coordinated designs with engineering, architectural, and construction firms in the SF Bay Area

**Porifera Inc. (Dec 2015 - April 2016) | Mechanical Engineer; Hayward, CA**

- Designed and manufactured ventilation and hydraulic systems for customers and facilities (quality control devices) using SolidWorks and in-house machine shop respectively.
- Coordinated with vendors in manufacturing high-tolerance custom parts

## PROJECTS

**Automotive Steering Retrofit Design (Feb. 2023) | Palo Alto, CA**

- Designed a steering shaft for my 1957 Chevrolet truck for a power steering upgrade. Used FEA to ensure the safety of the part design and material selection.

**Exhibition on Hacking and Repair (Jun. 2022 - Aug. 2022) | Barcelona, Spain**

- International exhibition on speculative approaches on extending the lifespan of obsolete tech using rapid prototyping, hardware hacking, and open source electronics. \*See my portfolio site for more details

**Modular 3D Printer (Jan 2019 - Dec 2021) | Davis, CA**

- Lead the Mechatronic and Packaging design of the motor modules for a reconfigurable, 6-axis 3D printer.

## ADDITIONAL EXPERIENCE

**Lime (June 2023 - present) | Senior Mechanic; San Francisco, CA**

**Exploratorium (July 2022 - Nov 2022) | Exhibit Technician; San Francisco, CA**

- Repair and refurbish science exhibits to ensure consistent performance and clean presentation
- Manufacture new parts for both old and new exhibits [Woodworking, Metal Machining, Rapid Prototyping]
- Designed and Manufactured lighting cabinets and false ceilings for the GLOW exhibition
- Managed daily tasks for on-call technicians

**Philz Coffee (Feb 2018 - September 2018) | Barista / Cashier; Palo Alto, CA**