

ANDY COLBORN

PROFESSIONAL EXPERIENCE

Learn to Solder Kits – Co-Founder / Owner
Sacramento, CA March 2023 – Present

*Led the development, manufacturing and business operations for a series of Open Source electronics projects designed to spark joy into budding engineers.
Open Source Documentation can be found [here](#).*

Aro Homes – Director of Engineering – MEP + R&D
Sacramento, CA September 2021 – February 2023

Founding member leading the design of a modular, carbon-negative, single-family home from concept and initial investigations through the securing of Series A funding and early stage growth

- Established a company commitment to decarbonization, leading efforts to design to, and achieve Passive House certification
- Led modeling, shop drawing production and development of company BIM/CAD standards, overseeing work of internal team and 3rd party consultants
- Led design of and obtained permit approval for electrical, plumbing, HVAC, solar, Title 24 compliance and oversaw design, integration and permitting of fire suppression systems
- Designed the initial layout of factory assembly lines and toured various facilities to determine the location of our first plant
- Interviewed and hired all members of the factory team (production, quality, health & safety and plant leadership)
- Developed a suite of internal modeling (semi-)automation tools (Onshape) which sped up routing of pipe, cable and duct by 20-30x and allowed for extraction of a variety of metadata

KATERRA – R&D Design Engineer
Sacramento, CA July 2019 – June 2021

Led the design of multiple targeted time saving manufactured assemblies and modular MEP products calculated at labor savings of \$4.3mil/year

- Managed multiple products through concept, costing, requirements, FMEAs, design, prototyping, factory and field pilots, and new product integration
- Listed as an inventor on patent filings for several different products including a novel snap together MEP system and several modular electrical assemblies
- Collaborated with Quality team to prepare several products for UL and IAPMO testing and certification
- Developed a companywide drawing standard used across multiple teams as a model to create manufacturable shop drawings from architectural models

Clearwater Lights – Mechanical Design
Rancho Cordova, CA August 2013 – June 2019

Designed and manufactured ferociously bright LED lights for motorcycles, racetracks, and helicopters

- Guided several products through their entire lifecycle including a speed-sensitive brake light and the brightest motorcycle light in the world
- Drove improvements in testing and quality control including the introduction of vibration, ultraviolet and IP67 water testing
- Worked to develop new products by designing and improving PCBs, aluminum casts, CNC machined parts, injection molds, sheet metal brackets, harnesses, and watertight enclosures
- Examined and repaired defective items to determine the root cause of failure; pushed design and material improvements which reduced failures from vibration and moisture by >90%

CONTACT

360.621.1256

acolborn@gmail.com

Sacramento, CA

[linkedin.com/in/andy-colborn](https://www.linkedin.com/in/andy-colborn)

andycolborn.com

SKILLS

Design for Manufacture

Embedded Systems

Rapid Prototyping

Lean Manufacturing

Modular Design

3D Modeling

Simulation

EDUCATION

George Washington University
Mechanical Engineering
Aerospace Option
Washington, DC
2007 -2010

Theta Tau Professional
Engineering Fraternity
Regent (President)

CERTIFICATIONS

Engineer-In-Training
California Board for Professional
Engineers, Land Surveyors, and
Geologists

PE Mechanical - Passed
Machine Design and Materials