

# CHRISTIAN HANDLEY

## MECHANICAL ENGINEER

Christian[at]ChristianHandley.com | [hndly.me/linkedin](https://hndly.me/linkedin)

### CAREER SUMMARY + GOALS

I have been in the renewables industry for over 10 years, starting my career at Ford designing EV batteries, continuing into stationary storage, electric motorcycles, aviation, and motorsport. Every position I've held has been in service of accelerating a transition to a more sustainable future, and I hope to characterize my entire career in this way. I'm seeking hard problems that require step changes in thinking, and there is no white space design that is too daunting for me to tackle.

### EDUCATION

**Master's Mechanical Engineering**  
University of Michigan, 2013-2016

**Bachelor's Mechanical Engineering**  
UC Berkeley, 2008-2012  
*English & Dutch Fluency*  
*Spanish & French Proficiency*

### SKILLS

Rapid Prototyping (CNC, Additive, etc)  
Team goal setting & management  
CAD: Catia, Solidworks, NX, Onshape  
DFMEA, GD&T, MFG Drawings  
Battery System Sizing  
Harness Design and Integration  
Design for Manufacturing (high/low vol)

### PATENTS

[Integrated Utility Structural Battery Pack](#)  
*Battery pack hidden in plain sight*  
[Hybrid Battery Preconditioning Method](#)  
*Efficient EV climate control method*  
[Cast Battery w/Coolant Protection](#)  
*EV battery with integrated cast features*  
[Battery Pack w/Integ. Crash Response](#)  
*EV battery crash safety design*

### WORK EXPERIENCE

#### Senior Staff Mechanical Engineer, Battery Systems

Cuberg

Feb 2024-June 2024

- Developed high integration factor (75%+) module & battery designs for Li-Metal pouch cells
- Defined milestones and exit criteria for Cuberg's mech design Product Development Process
- Set bi-weekly sprint goals for my team, assigning tasks based on ability and managing timelines

#### Senior Principal Engineer, Research and Adv Engineering

Our Next Energy (ONE)

April 2023-Nov 2023

- Developed liquid-polymer electrolyte pouch cells to be integrated into 90%+ cell-to-pack batteries
- Directly managed an intern to develop and execute on a proof of concept PV storage system
- Designed & integrated a novel, rapidly deployable photovoltaic (PV) battery storage systems
- Contributed to development and manufacturing of the 608 Mile Gemini dual-chemistry pack
- Developed test plans and system applications for cutting-edge LFP and Anode-Free cells

#### Senior Mechanical Design Engineer, Power Electronics

Harley-Davidson, LiveWire

June 2020-April 2023

- Owner & designer for LiveWire's S2 Del Mar Power Electronics Unit (PEU) (100+ part BOM)
- Managed PEU contract manufacturer and ramped volume up to 1000 units/year
- Designed & released 15 internal harnesses for the S2 Del Mar electrified powertrain
- Formulated and executed test plans for internal & external testing, regulatory certification
- Delivered prototype & production harnesses, with custom & off-the-shelf components

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## WORK EXPERIENCE

### Senior Mechanical Engineer, Renewable Energy Systems

Caban Systems

Jan 2019-March 2020

- Designed injection molded battery modules with 18650 cells for telecom stationary storage
- Designed, released, and fabricated Aluminum IP68 battery packs for extreme environments
- Worked with domestic & international supply bases to integrate packs into systems
- Lead technical associates in domestic final assembly of modules, packs, and systems
- Implemented Arena PLM from the ground up, implementing 60+ configurations & 200+ parts

### Lead Battery Enclosure & BIW Design Engineer

Faraday Future

May 2018-Jan 2019

- Lead the high voltage battery structure design on the high volume FF battery pack
- Drafted & released full model-based-design GD&T using Catia V6 & Enovia for 50+ components
- Rapidly resolved aluminum joining design issues (fusion, TIG, friction stir welding)

### Lead Engineer, High Voltage Battery Enclosures/Packaging

Ford Motor Company

Nov 2015 - May 2018

- Owned, designed, and integrated the Hybrid Mustang structural enclosure
- Worked directly with CAD, CAE, and packaging to meet safety, durability, and environmental req's
- Designed, sourced, and manufactured prototype parts to meet design verification & validation
- Supported components and systems from the design stage through production
- Selected and sourced suppliers from prototype to high volume production

### Electrified Powertrain Engineer, Rotating Positions

Ford Motor Company

Jan 2013-Nov 2015

- **Hybrid Design & Release** - Worked with suppliers and CAD engineers to design new packaging for the next generation of electric hybrid vehicle battery packs
- **Basic Design Integration** - Managed 60+ content additions to future vehicle programs, working with attribute leads to determine vehicle content and architecture
- **New Model Launch, Toronto** - Owned the instrument panel of 230 prototype build vehicles, resolving electrical issues that affect the manufacturing process and customer satisfaction
- **Hybrid Thermal Controls & Test** - Developed climate cooling solutions for the next generation of Ford Hybrid vehicles & performed extreme climate tests in wind tunnel facilities
- **Hybrid Calibration** - Developed and performed cold tests for plug in hybrid vehicles & developed a number of calibrations to minimize engine use in plug-in hybrid vehicles

### Vehicle Operations & Quality Intern, Dearborn Truck Plant (F150)

Ford Motor Company

Summer 2011

- Monitored twenty 2012 prototype F150's, identified quality concerns and facilitated repairs