Edward Ponce

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Education

**University of California, Riverside | B.S. in Mechanical Engineering** 2016-Present

Experience

## **Battery Systems Intern | Rivian** **Jun** 2019 – **Nov** 2019

* + Conducted thermal testing and analysis on production intent components that led to vehicle level design decisions
  + Established setup for thermal tests by manufacturing conductors using machines such as a band saw and drill press.
  + Assembled thermal testing equipment such as thermistor and thermocouple sensors using soldering and spot welding respectively.
  + Participated in vibration testing for production intent components by assembling and placing accelerometers and assisting in DAQ configuration.
  + Assembled vehicle battery modules gaining experience in adhesives and cell packaging solutions.

## **Battery Lead Engineer | FSAE Highlander Racing – University of California, Riverside** 2018– Present

* + Leading a team of 11 engineering students to design, analyze, and manufacture a performance battery pack for a FSAE Electric Vehicle.
  + Training new team members in advanced Solidworks techniques for efficient and structured design.
  + Designing Battery architecture, configuration, and packaging solutions.
  + Verifying Safety of Designs and ensuring correct FSAE Safety Documentation for all structural and electronic designs

**Achievements**

* + Designed HR20 Vehicle battery architecture and cell packaging solution that utilizes industry relevant wire bonding cell connection methods and FDM 3D Printing.
  + Designed HR19 Battery Mounting System that increased factor of safety by 200% and reduced manufacturing time by 50%
  + Designed an FDM 3D printable distribution box for HR 19 high voltage and low voltage routing
  + Trained new Battery Members to emphasize safety when working with high voltage electronics
  + Conducted data collection and analysis on pouch cell tab fusing with DAQ instrumentation

## **Drivetrain Engineer | FSAE Highlander Racing – University of California, Riverside** 2017– 2018

* + Designed a wheel hub as part of an in-wheel planetary gearset drivetrain system that could safely withstand the load of a 4-motor electric vehicle with a Factor of Safety of 3.
  + Conducted structural FEA on wheel hub to verify design criteria and utilize iterative optimization to achieve best stress simulation.

# Technical Skills & Abilities

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| --- | --- | --- |
| Design and Simulation Programs | Programming Languages | Other Programs |
| * SolidWorks CAD * Catia V5 * Ansys Mechanical * COMSOL Multiphysics Simulation | * MATLAB * Python * C++ * VBA | * Enerchron 2.0 Test Management * Cura * Slic3r |