HARISHESWARA REDDY EARGAMREDDY

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PROFESSIONAL SUMMARY

Mechanical engineer with 2.5 years of designing, simulating, prototyping, and validating battery energy storage systems and power products. Proven record leading regulatory qualification(UL 9540A, IEEE 693-2018), FEA-driven design, and rapid production scale up. Strong in DFM/DFA, GD&T, structural and thermal simulation, and cross functional hardware development from concept to mass production.

EDUCATION

Northeastern University - Boston, MA Dec 2023
M.S., Mechanical Engineering(Mechanics and Design) | GPA: 3.72/4.00
Vellore Institute of Technology - Chennai, India May 2018
B.Tech., Mechanical Engineering.

RELEVANT WORK EXPERIENCE

Mechanical Engineer II | Generac Power Systems, South Portland, ME Jun 2026-Present

- Leading end to end design, prototyping, build and validation of a cell module assembly for an upcoming energy product.
- Direct de-risking of critical UL 9540A testing by simulating, prototyping, building and validating multiple cell configurations.

Mechanical Engineer | Generac Power Systems, South Portland, ME Apr 2024-May 2026

- Led the IEEE 693-2018 seismic qualification test for three R2 products, achieving full certification and compliance with industry standards.
- Drove rapid production scale-up from 130 to 50,000 assemblies in 4 weeks by using hands-on line experience to resolve Design-for-Manufacturing (DFM) issues across fixtures, tool positioning, and ergonomics.
- Engineered a custom EMI solution for a battery management unit, to enhance shielding (5dB noise reduction), thermal venting (3°C drop), and minimize PCB strain (<500 με).
- Modeled a 22kA short circuit test on a smart disconnect switch using FEA to identify critical failure zones, refined the design, and validated the prototype's resilience through physical testing.
- Performed strain gauge testing on two different products to flag components exceeding IPC/JEDEC-9704 limits, driving design and handling changes that cut strain by 22% and 34%.
- Improved manufacturability across programs by applying GD&T, tolerance stack up, DFM, and DFA.

Mechanical Engineering Co-op | Generac Power Systems, South Portland, ME Sep 2022-Jan 2023

- Increased the battery operating hours by 28% by through waste heat conservation and optimal airflow.
- Revamped the wall mount bracket to reduce the overall weight by 32.5% and bolted joints for a faster assembly.
- Collaborated with international contract manufacturers to refine bracket assembly designs for mass production.

Mechanical Engineering Intern | S.C. Railway Wagon Workshop, India Dec 2016–Jan 2017

- Inspected damaged IRSA-600 brake hangers to determine interior section attributed to 80% of the overall failure.
- Validated the crack initiation and propagation of the bush weld in the interior section of the lever with ANSYS.
- Illustrated that substituting welding with a single-piece die-cast reduces overall stress from 2000 to 64.6 MPa.

PROJECTS

Design and Finite Element Simulation of Meta-Cells with Pre-Stresses | Master Thesis May 2023 – Dec 2023

- Engineered a novel mechanical metamaterial and analyzed the impact of pre-stress in 12 designs.
- Built an ABAQUS simulation workflow that energy absorption by 35% on a meta-material design.

TECHNICAL SKILLS

CAD & Design: PTC Creo, SolidWorks(CSWA & CSWP).
Simulation & Analysis: ANSYS, ABAQUS CAE, FEA(structural & thermal), MATLAB.
Programming Language: Python and SQL.