Analysis and Modeling Design Engineer – High Voltage Devices | Tesla 工作機會

The Role

As an analysis and modeling engineer, your work will evaluate the performance and guide the designs of critical electromechanical devices and the battery packs in which they're used. Achieving our ambitious goals requires you to be passionate, collaborative, detail-oriented, and tenacious in the application of your strong heat transfer, kinematics, material behaviors, and thermodynamics analysis skills to solve tough technical problems. Using those talents you will model, analyze, develop, test, and help drive requirements for high voltage devices and systems in Tesla's cutting-edge battery packs.

Responsibilities

- Create, develop, and run component and system thermal and kinematic models
- Collaborate with a broad group of design, architecture, and simulation engineers within and beyond our team to achieve integrated and optimized device and system designs guided by your analyses and simulations
- Individually and in collaboration with other engineers, develop and specify test methods and plans to validate and calibrate your component and system models
- Validate and calibrate your models by conceiving and executing a variety of engineering tests
- Rigorously document and proactively share simulation and analysis tools and results across stakeholder engineering partners and leaders

Requirements

- First-principles physics understanding of multiple engineering disciplines such as: thermal, mechanical, electrical, or magnetics
- Work efficiently and productively in independent and team settings
- Communicate clearly using excellent written, verbal, and data presentation skills
- BS degree in Physics, Mechanical, Electrical Engineering or equivalent experience
- Proficiency in MATLAB and at least one multi-physics simulation software package (e.g. - STAR, ANSYS, COMSOL, etc)

Valuable Skills and Experience

- Demonstrated talent for analyzing thermal and/or multi-physics systems and conceiving design solutions to complex engineering challenges
- Experience creating custom numerical/analytic models from physics fundamentals
- Experience designing or analyzing any of the following: thermal networks, thermal interfaces, electrical contacts, electrical insulators, electrical conductors, mechanisms, electromechanical and electromagnetic actuators, electrical circuit protection devices, arc physics.
- Familiarity with and understanding of high volume Li-ion battery system designs

- Requirements development and authoring experience