35 Congress Street
Suite 2251
Salem, MA 01970
www.titanaes.com

Senior Ultrasound System Design Engineer
Titan Advanced Energy Solutions, Inc., Salem, MA

We are looking for an Ultrasound Systems Engineer. The ideal candidate can think broadly, has scientific curiosity, is not afraid to challenge existing solutions and influence change, is open-minded, has good communication skills, and can adapt to change. This position is onsite and reports to the Head of Battery Ultrasound R&D.

Duties and Responsibilities:

- Lead technical research and feasibility for ultrasound imaging of Lithium-Ion batteries. Develop new technologies together with internal and/or external teams in alignment with the company product roadmap.
- Identify and scope projects around technical innovation opportunities and lead feasibility studies and execute trade studies to understand the design trade-offs and make performance estimates to set design expectations.
- Analyze and simulate complex acoustic wave propagation and its interaction with multi-layered media and/or composite materials for optimal ultrasound transducer and system designs.
- Develop and prototype algorithms for acoustic signal analysis and feature definition, nondestructive material characterization and flaw detection using ultrasound,
- Collaborate closely with multidisciplinary teams and productize designs with cross-functional input from Product management, Mechanical Engineering, Electrical Engineering, etc.
- Oversee system level architecture and lead requirement management (system, product, component) and technical scope definition across cross-functional teams from product inception through commercial launch, including VOC and user experience.
- Drive the Systems Engineering deliverables completion to support the necessary product development. Hold inclusive and transparent design reviews and trace user requirements with user cases to make sure we satisfy the program requirements and specifications.
- Perform functional and non-functional testing, analyze data, and evaluate signal quality for ultrasound transducers and systems.
- Mentor new hires and other engineers on physical acoustics and related subjects such as data analysis and signal processing.

Education/Qualifications

- MS in an engineering field (mechanical, electrical, or similar) with 3+ years of ultrasound related work experience or Ph.D. with ultrasound related research work experience.
- In depth knowledge of acoustic wave propagation, scattering, and acoustic signal processing.
- Knowledge of Lithium-Ion batteries or prior experience with ultrasound interrogation of batteries is a big plus.

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- Comfortable working in a laboratory environment and experience with standard acoustic laboratory equipment and acoustic measurements.
- Broad knowledge across mechanical, electrical, software engineering, as part of combined HW/SW systems.
- Working knowledge of MATLAB, Python, or similar scripting programming languages.

Valuable Skills:

- Ability to demonstrate critical thinking and thought leadership.
- Take a broad strategy and define a first-class solution.
- Communicate complex concepts in a clear and concise manner.
- Learn on the job quickly and efficiently.
- Thrive in a rapid growth, fast-paced environment, and an able to adapt to change.
- Results-oriented, highly motivated, and comfortable in ambiguous situations.

Personal Values:

- Passion, curiosity, and strong interpersonal skills.
- Compassionate and highly empathetic.
- Trustworthy & full of integrity.
- Bias to action and entrepreneurial spirit.
- Collaborative and capable of building consensus internally and externally.
- Continued learning mindset.

Learn more at www.titanaes.com
Titan welcomes applicants from every background – our diversity helps us thrive and serve our customers and each other. All employment decisions are based on qualifications, merit and business needs, without discrimination or bias. We are proud to be an equal opportunity employer. If you need assistance or an accommodation due to a disability, please let us know.