LPB2 Lead Systems Engineer

Job Description

The Lead Systems Engineer is a key technical leader responsible for driving the architecture, integration, and performance optimization of Magnetic Resonance Imaging systems. This role leads cross-functional engineering teams in the development and validation of MRI platforms, ensuring alignment with clinical, regulatory, and business requirements. The Lead Systems Engineer translates complex clinical needs into system-level solutions, balancing trade-offs across hardware, software, RF, gradient, and magnet subsystems. They play a critical role in defining system requirements, managing interfaces, and ensuring robust system performance throughout the product lifecycle. This position requires technical expertise in MRI physics and engineering, strong leadership skills, and a collaborative mindset to deliver innovative and high-quality imaging solutions.

Roles and Responsibilities

System Architecture & Design:

- Lead the development of MR system and architecture and design, including system-level requirements and interface specifications

Integration & Performance:

- Oversee integration of different MR subsystems (i.e., SW, Magnet, RF, Gradient, Receive Chain etc.) to ensure optimal image quality, patient safety, and system reliability; Drive system-level performance analysis and trade-off studies.

Technical Leadership:

- Serve as the technical point of contact for cross-functional teams including hardware, software, clinical applications, and regulatory affairs; Contribute to technical reviews and design decisions; Lead risk assessments and failure mode analyses (FMEA) for system-level concerns.

Lifecycle Management:

- Support product development from concept through commercialization and sustaining engineering; Lead system verification and validation planning and execution; Ensure compliance with medical device regulations (e.g., FDA, IEC 60601).

Stakeholder Collaboration:

- Translate customer and clinical needs into system requirements and design inputs; Work closely with product management, marketing, and service teams to ensure product success; Interface with external partners and suppliers as needed.

Required Qualifications:

- Master's degree in Electrical Engineering, Biomedical Engineering, Physics, or related field (PhD preferred).
- Minimum 3+ years of experience specifically in systems engineering, preferably in medical imaging or MRI.
- Strong understanding of MRI physics, system components, and clinical workflows.
- Proficient in the use of software tools for analysis and simulation.
- Experience with regulatory standards and design controls for medical devices. Excellent communication, analytical, and problem-solving skills.

Desired Characteristics:

- Experience with MRI system modeling, simulation, or performance optimization tools.
- Familiarity with advanced imaging techniques (e.g., diffusion, spectroscopy, functional MRI).
- Hands-on experience with MRI hardware or software development.
- Knowledge of signal processing and image reconstruction algorithms.
- Experience working in Agile or hybrid development environments.
- Prior involvement in clinical trials or collaboration with radiologists and technologists.
- Strong background in risk management and safety-critical systems.
- Experience with international regulatory submissions (e.g., CE Mark, MDR).