Job Title: Senior Signal Processing and Machine Learning Engineer - Veterinary Ultrasound Systems

Location: Loveland, CO

Company Overview:

E.I. Medical Imaging is a pioneer in veterinary medical imaging solutions, dedicated to advancing animal healthcare through innovation and technology. We are currently seeking a highly skilled Senior Signal Processing Engineer to join our team and contribute to the design and development of advanced signal processing algorithms for our veterinary ultrasound systems. This role offers an exciting opportunity to work on cutting-edge technology and make a meaningful impact on veterinary medicine.

Position Overview:

As a Senior Signal Processing and Machine Learning Engineer, you will play a key role in the design and implementation of advanced signal processing algorithms and machine learning models for our veterinary ultrasound systems. You will work closely with cross-functional teams of hardware engineers, software engineers, and domain experts to develop high-performance algorithms that enhance image quality, enable real-time analysis, improve diagnostic capabilities, and facilitate automated measurements and diagnosis.

Key Responsibilities:

- Design and development of signal processing algorithms for veterinary ultrasound applications, including image enhancement, Doppler signal processing for blood flow analysis, speckle noise reduction, and feature extraction.
- Guide the implementation of machine learning models for automated diagnosis and measurements, leveraging large datasets to train and validate predictive models.
- Collaborate with hardware engineers to optimize signal processing algorithms for efficient implementation on embedded platforms, considering factors such as computational complexity, memory bandwidth, and power consumption.
- Work closely with software engineers to integrate signal processing and machine learning algorithms into the overall ultrasound system, ensuring seamless integration with user interfaces, data acquisition modules, and image display functionalities.
- Conduct performance evaluation and validation of signal processing and machine learning algorithms using simulated data, bench testing, and clinical validation studies, ensuring accuracy, reliability, and clinical relevance.
- Stay abreast of the latest advancements in signal processing techniques, machine learning, ultrasound technology, and veterinary medicine, and apply relevant innovations to enhance our products and maintain competitive advantage.
- Contribute to design reviews and drive continuous improvement in signal processing and machine learning methodologies.

Qualifications:

- Master's or Ph.D. degree in Biomedical Engineering, Software Engineering, Electrical Engineering, Computer Science, or a related field with a focus on signal processing and machine learning.
- 7+ years of experience in signal processing algorithm development and machine learning, preferably in medical imaging or ultrasound applications.
- Strong theoretical and practical knowledge of signal processing techniques, including filtering, spectral analysis, time-frequency analysis, and statistical signal processing.
- Experience with Doppler signal processing techniques for blood flow analysis, such as spectral Doppler, color Doppler, and power Doppler.
- Familiarity with speckle noise reduction methods.
- Proficiency in MATLAB, Python, or other programming languages commonly used for algorithm development and simulation.
- Experience with real-time implementation of signal processing algorithms on embedded platforms, familiarity with DSPs, FPGAs, or GPUs is a plus.
- Experience in developing and deploying machine learning models for diagnostic purposes, including familiarity with frameworks such as TensorFlow or PyTorch.
- Excellent problem-solving skills, attention to detail, and ability to work in a fast-paced, collaborative environment.
- Effective communication skills and ability to collaborate with cross-functional teams.

Benefits:

- Competitive salary and benefits package.
- Opportunity to work on cutting-edge technology with a talented and passionate team.
- Career growth and development opportunities in a dynamic and rapidly growing company.
- Flexible work environment with options for remote work and flexible hours.

How to Apply:

Please send your resume and cover letter to ptemple@eimedical.com In your cover letter, please highlight your relevant experience and why you are interested in joining E.I. Medical Imaging

E.I. Medical Imaging is an equal opportunity employer and welcomes candidates from all backgrounds to apply.