Wearable ultrasound sensors for imaging and sensing

Novel wearable ultrasound transducers designed to integrate real-time imaging, sensing, and treatment functions for application in therapeutics and diagnostics.

IP Status: US Patent Pending; Application No.18/881,592

Applications

- Monitoring neurovascular and neurological disorders
- · Monitoring recovery of muscular disease

Technology Overview

Researchers at the University of Minnesota have developed wearable ultrasound transducers designed to gather both imaging and sensing data. In sensor mode, the device enables users to move freely while measuring properties such as vessel pulsation and tissue stiffness. When switched to imaging mode, the same transducer array provides more precise imaging under controlled conditions. The wearable nature of this device makes it suitable for various diagnostic and therapeutic applications in both home and clinical settings.

Phase of Development

TRL: 3-4

Proof of concept has been demonstrated.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

• Emad Ebbini, PhD Professor, Department of Electrical and Computer Engineering

References

 Abhishek Sahoo, Steven Zhou, Collin Smith, Emad S. Ebbini(2022), https://ieeexplore.ieee.org/document/9958787, https://ieeexplore.ieee.org/document/9958787

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Category

Engineering & Physical
Sciences/Instrumentation,
Sensors & Controls
Life Sciences/Diagnostics &
Imaging
Life Sciences/Medical Devices

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