

Lily MedTech Develops Ultrasound Imaging System for Breast Cancer Screening

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Breast cancer has a very high survival rate if detected early. However, mammography, an existing screening method, has problems such as pain and radiation exposure, and reduced accuracy in dense breasts. To solve these problems and enable early detection of breast cancer, startup [Lily MedTech](#) is developing the Ring Echo. This device captures tomographic images while changing positions for reception and transmission in a ring array and acquires information that cannot be captured with existing echo devices.

Lily MedTech is applying the synthesis aperture method to reconstruct images and developing imaging algorithms using MATLAB®, purchased at a startup-friendly price. MATLAB also enabled team members who specialize in electric, mechanic, and other domains, but who are not CUDA® programming experts, to easily speed up processing using parallel computation on GPUs.

Advantages of using MATLAB:

- Intuitive algorithm exploration with compact description and visualization capabilities
- High-speed processing using GPUs
- No need to change any code and easy implementation with MATLAB Compiler™

“ MATLAB enables us to **easily explore algorithms**. Team members who do not specialize in programming can use GPUs to **improve image reconstruction algorithms**. Another big advantage is that the MathWorks Startup Program provides **easy access to MATLAB**. ”

