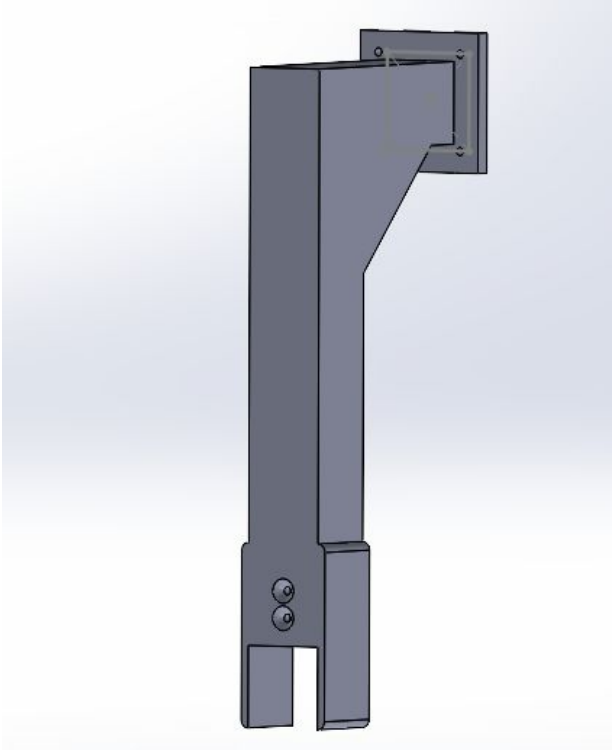
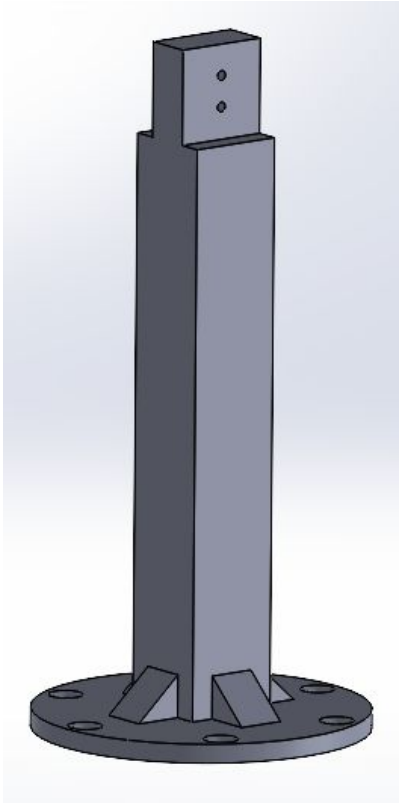
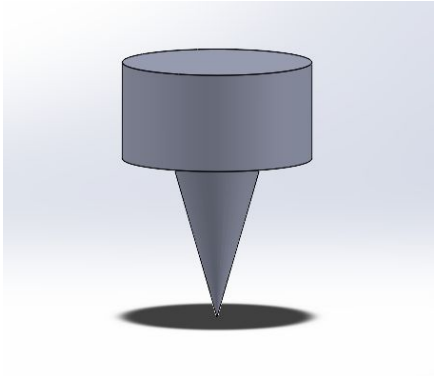
Internship Summary

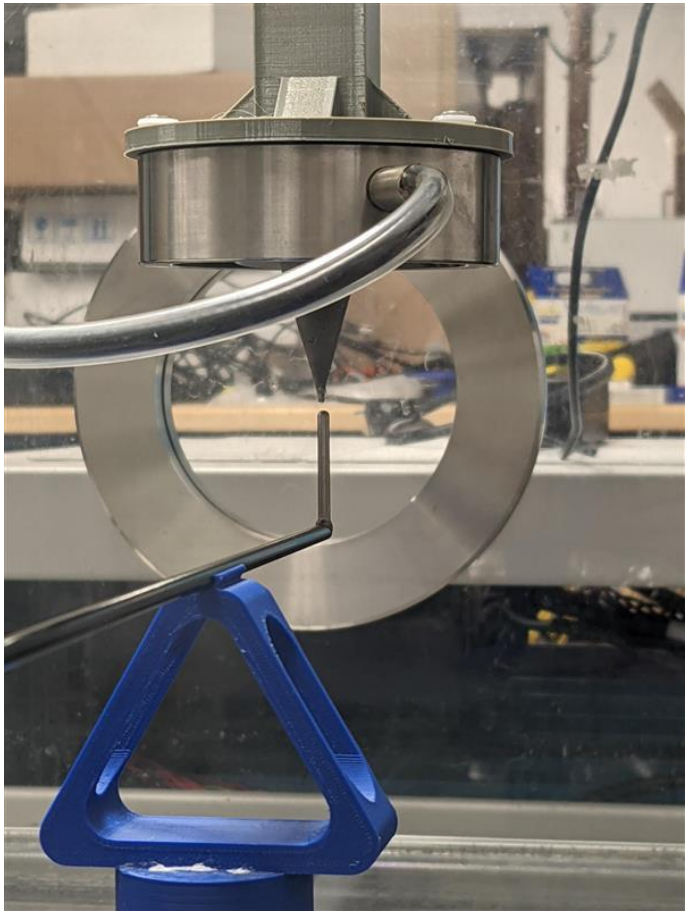
Yangou Du

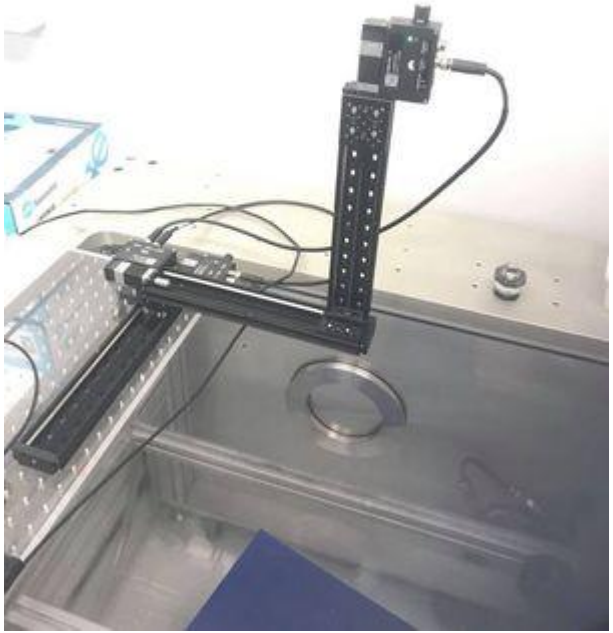




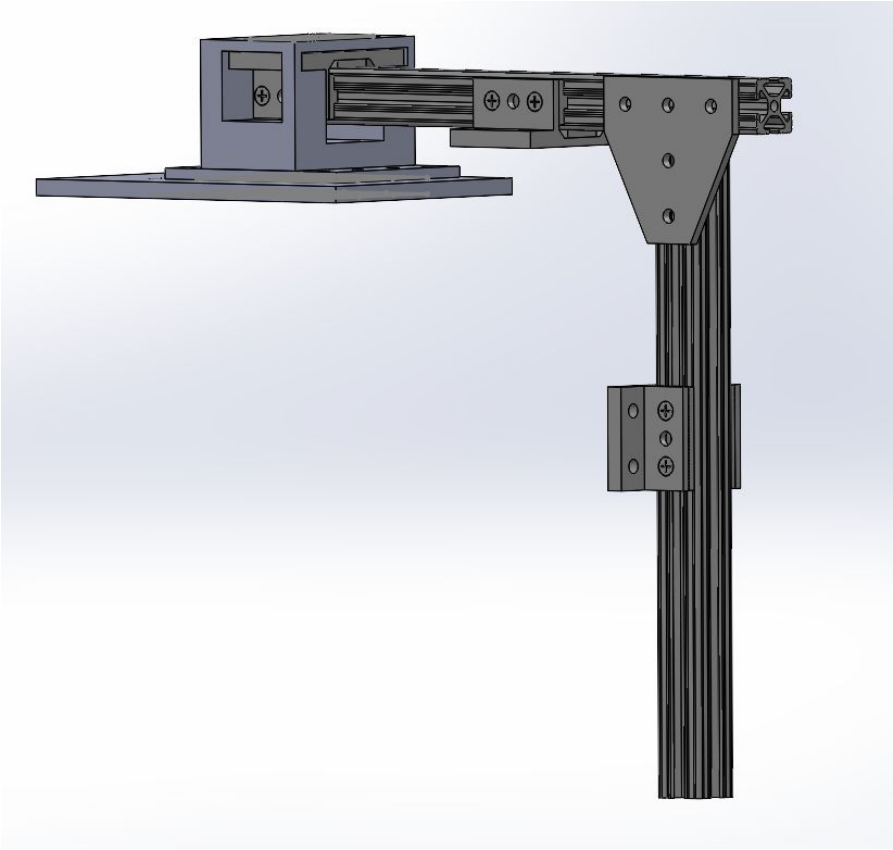
3D-printed parts



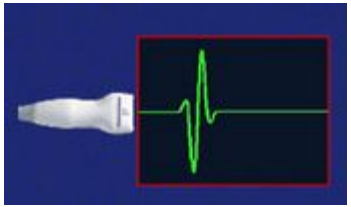


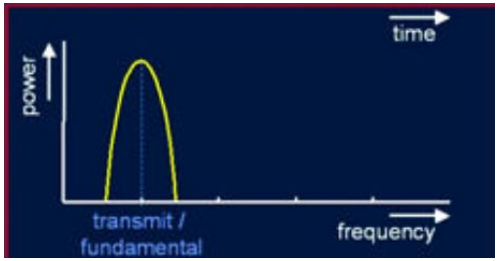


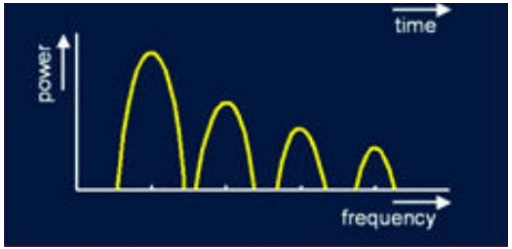
Stage Design



Non-linear Imaging







$$O(x(t)) = a_1x(t)+a_2x^2(t)+a_3x^3(t)+...+a_Nx^N(t)$$

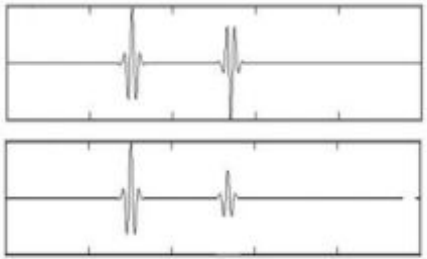
PI(pulse inversion)

$$O(1)+O(-1)=2a_2+2a_4+2a_6\ldots\text{(only even terms)}$$

AM(amplitude modulation)

$$O(2)-2O(1)=2a_2+6a_3+14a_4\ldots\text{(has both term)}$$

Sequence



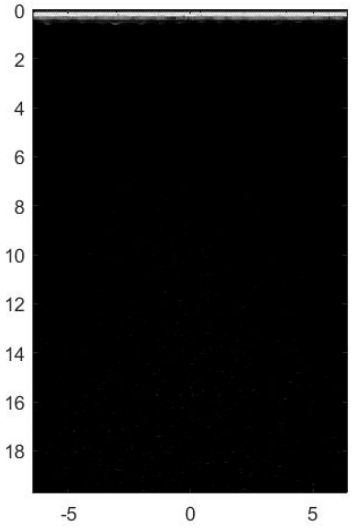
Combination

$\rightarrow P_{+1} + P_{-1}$

$\rightarrow P_{+1} - 2P_{+½}$

Water AM

AM



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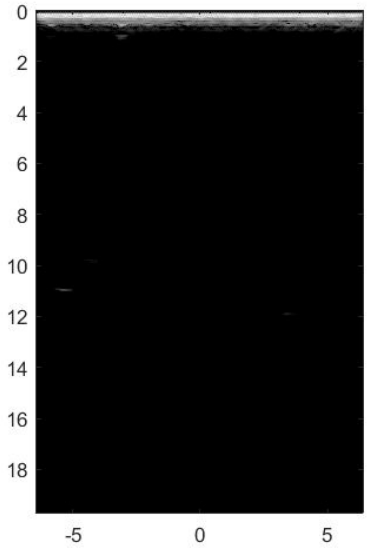
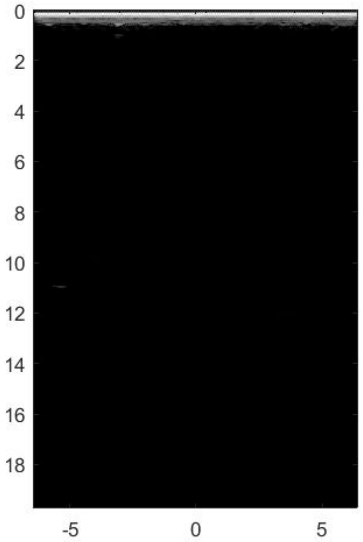
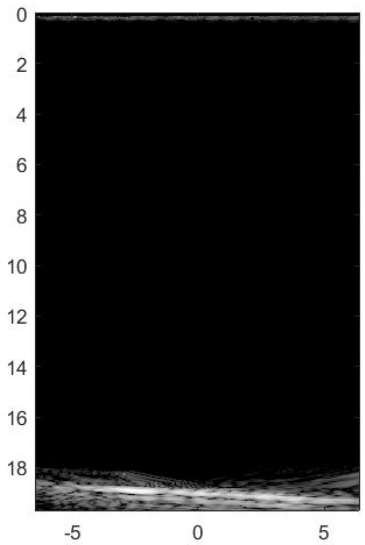


2

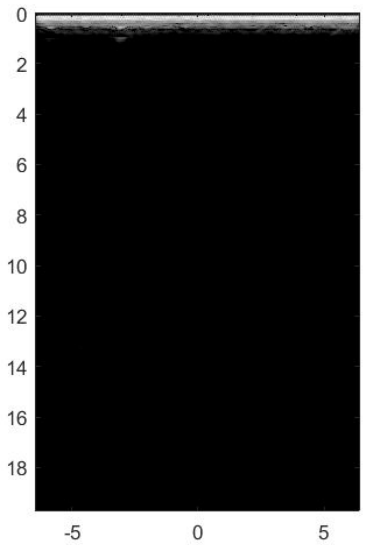


Water PI

PI



1



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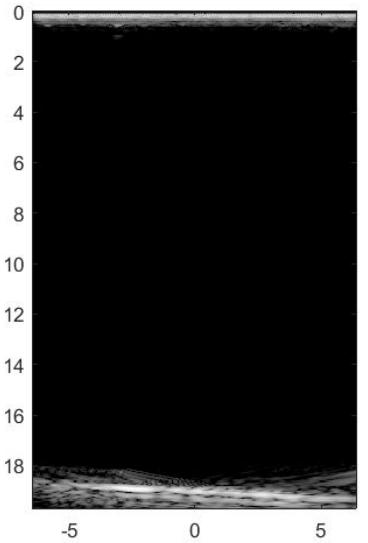
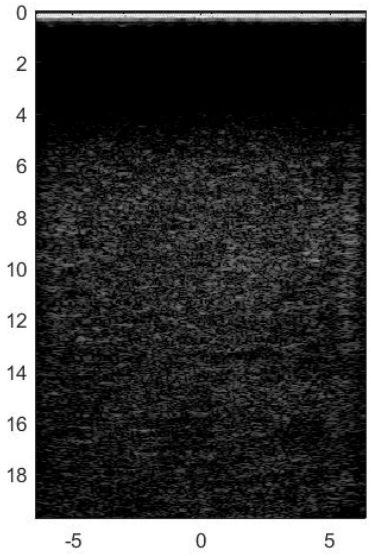


Water with Microbubbles AM

AM



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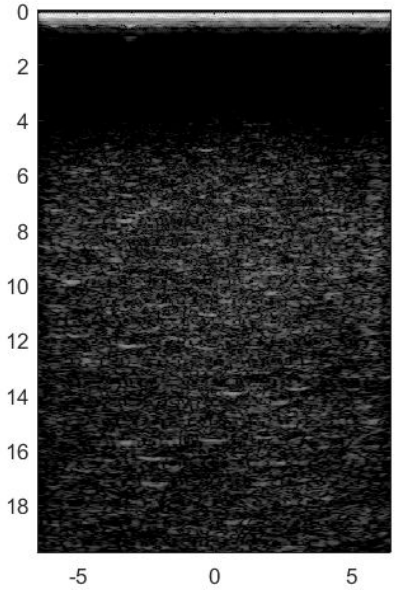

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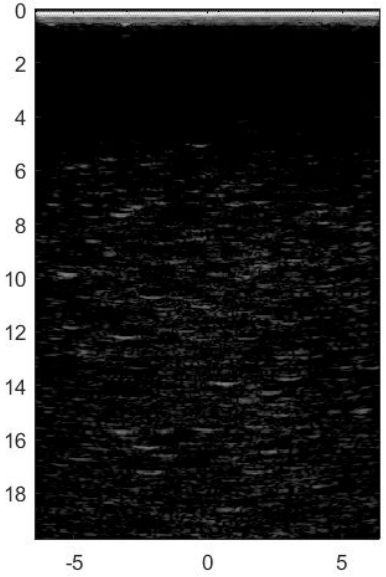
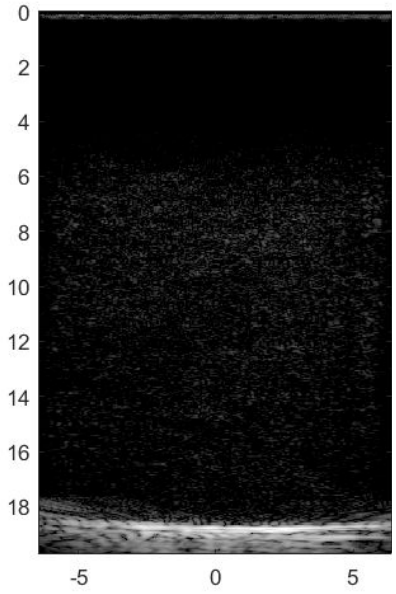


Water with Microbubbles PI

PI



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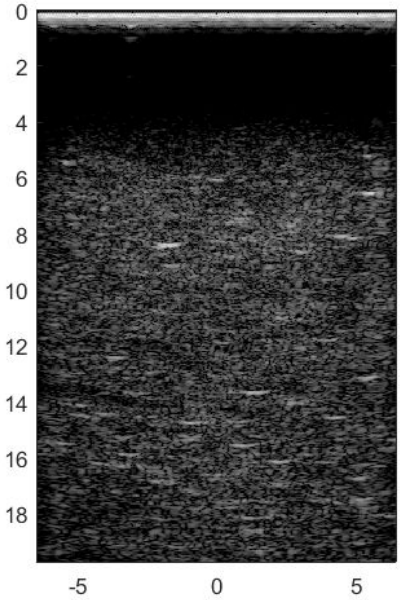

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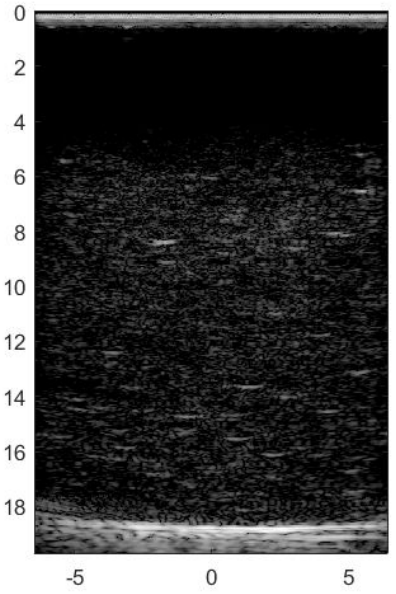
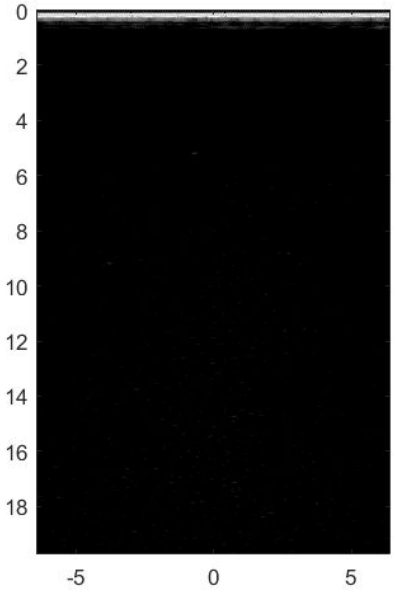


Phantom AM

AM



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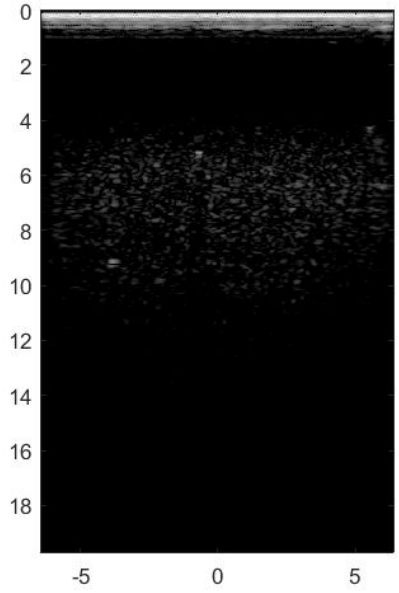

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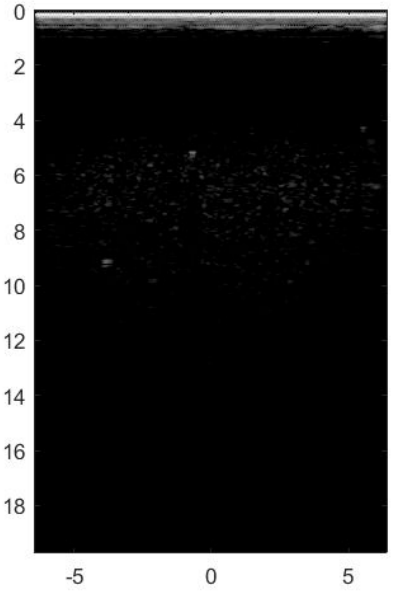
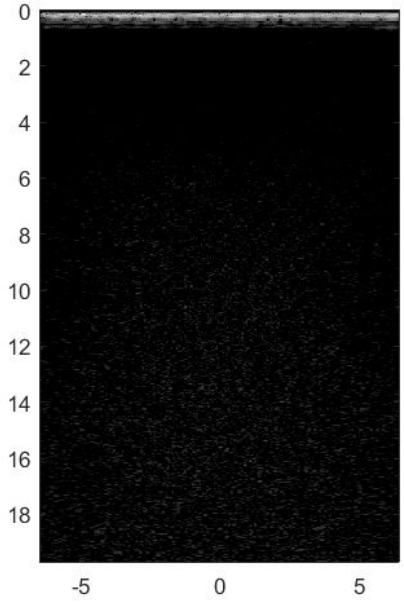
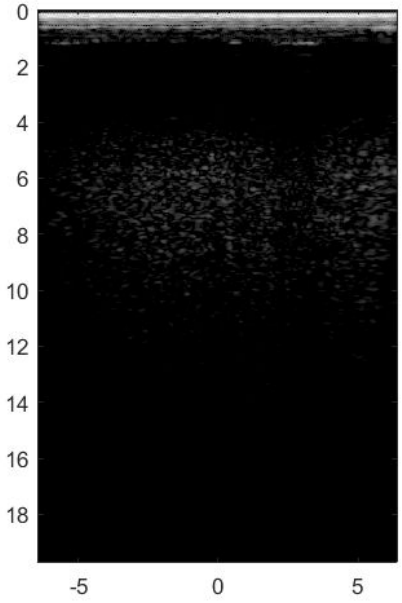


Phantom PI

PI



1



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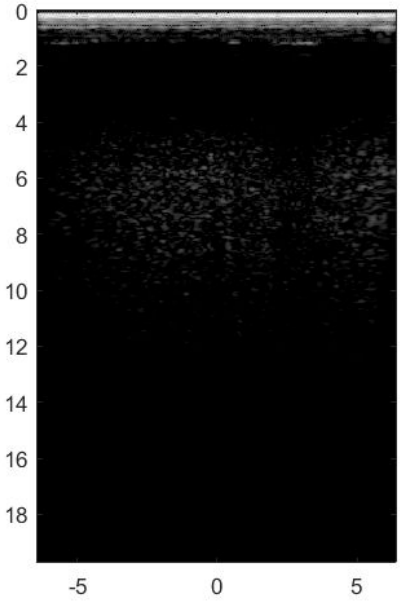

What I learned

- Solidworks
- Ultrasound imaging and microbubbles
- Matlab
- Vintage software
- Working alone is hard
- Language matters

Thank You!