



## Super-Resolution Photoacoustic imaging

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### Project description:

Photoacoustic imaging is a new method for visualizing blood vessels in-vivo. The key idea is to excite the red blood cells with short laser pulses and record the acoustic vibrations which are emitted afterwards. Recently, we have been able to achieve sub-diffraction resolution in contrast enhanced ultrasonic imaging and in fluorescent microscopy imaging using compressed sensing techniques.

In this project we will apply similar super-resolution concepts to photoacoustic data to improve the spatial resolution of this imaging modality.

**Required background:** Signal and systems, Mavlas, Mavla.

**Environment:** Matlab.

For further details, please contact Oren: orensol@tx