Sinogram super-resolution and denoising convolutional neural network (SRCN) for limited data photoacoustic tomography

**Python Code :** (requires keras with Tensorflow as backend)

#Python Implementation of proposed deep neural network along with training routine : SRCNTrain.py

#Python code to retrain existing model of the network : SRCNRetrain.py

#Python code to test the model : SRCNTest.py

#MATLAB function to add noise to PAT sinogram : addNoise.m

#MATLAB code to make patches of sinogram for creating training and testing dataset: makePatches.m

#MATLAB function to interpolate singoram (nearest interpolation) : generalTwiceInterpolate.m

This Python and MATLAB code is used as part of the work presented in:

Navchetan Awasthi, Rohit Pardasani, Sandeep Kumar Kalva, Manojit Pramanik, and Phaneendra K. Yalavarthy "Sinogram super-resolution and denoising convolutional neural network(SRCN) for limited data photoacoustic tomography"

\* The code does not come with any guarantees and can be freely used for any purpose. Please do cite relevant literature's mentioned in the MATLAB functions.