Image denoising for PET scan and X-ray tomography reconstruction with mixed noise

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In this work [1] we study variational models for denoising and reconstruction of PET scan and X-ray tomography measurements with Poisson and Gaussian noise. These models combine infimal-convolution denoising techniques as in [2] with reconstruction operators for PET scan and X-ray tomography data. We use a Bregman–Expectation Maximization algorithm similar to the one [3] to solve the minimization problems.

The prime driver for the development of this method is its application in X-ray tomography studies of defect formation in wire bonds.

Joint work with: George Papanikos, Pearl Agyakwa.

References

