$$S_t \circ c(h)(a_s)_{ti}c(s) + \mathfrak{S}_e m^i n(a_r)$$

Image denoising and feature extraction with subspaces of image patches

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Various researchers have shown the effectiveness of patches, i.e. pixels in a neighborhood, as a local image descriptor for filtering and segmentation. Image patches exist in a high-dimensional feature space, i.e. 49 dimensions for 7x7 patches, but are concentrated close to a lower-dimensional subspace. In this talk, we will discuss the importance of these subspaces and their structure in the context of general purpose image denoising and in the context of feature extraction in more controlled settings such as fingerprint images.