

Deblurring images: matrices, spectra, and filtering

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20443138&lokasi=lokal>

Abstrak

When we use a camera, we want the recorded image to be a faithful representation of the scene that we see, but every image is more or less blurry. In image deblurring, the goal is to recover the original, sharp image by using a mathematical model of the blurring process. The key issue is that some information on the lost details is indeed present in the blurred image, but this hidden information can be recovered only if we know the details of the blurring process. Deblurring Images: Matrices, Spectra, and Filtering describes the deblurring algorithms and techniques collectively known as spectral filtering methods, in which the singular value decomposition and a similar decomposition with spectral properties as used to introduce the necessary regularization or filtering in the reconstructed image. The concise MATLAB implementations described in the book provide a template of techniques that can be used to restore blurred images from many applications.