CS 663
DIGITAL IMAGE PROCESSING

Project Proposal

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Project Topic :
Image deblurring using reverse heat equation and reverse mean shift

Link to the paper :
https://www.ee.iitb.ac.in/~sc/papers/icip07.pdf

Other resources :
https://www.ee.iitb.ac.in/~sc/papers/vinay_thesis.pdf

Details:
We will implement the method proposed in the paper for deblurring or the the images. It is ‘deconvolution’ of the image blurred by convolution with gaussian mask. The approach is based on stabilization of the reverse heat equations and use of diffusion equations. This is done by damping the distortion along the edges by adding a normal component of the heat equation in the forward direction. The stopping criterion based on the divergence of the curvature in the resulting reverse heat flow. The resulting stabilized reverse heat flow makes it possible to solve the challenging problem of blind space varying deconvolution.
We will compare the performance of the proposed algorithm with other deblurring methods. This method is said to handle spatially varying blur effectively.