

Manipulate Colour Images

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ABSTRACT

Paste A common problem encountered in image processing is the need to blend some source image region onto a destination image region without visible seams at the boundary of these regions. The finite difference discretization of the Poisson equation is found to be a suitable basis for this with a variety of uses, such as defect correction, feature removal and feature insertion. Given Dirichlet boundary conditions, the Laplacian of some source image can be reconstructed at the target utilizing new pixel values interpolated from the boundary inwards. Well known iterative methods are discussed to solve this equation, and provide suitable performance for use in the context of an image editing software package.



Figure 1. Feature Replacement. Source images top row. Result bottom right.