

Accelerated red-black strategy for image composition using Laplacian operator

ABSTRACT

Digital image composition deals with the problem of embedding portion of source image to the target image to generate a single desirable image seamlessly. The aim is to produce a new image that combine both source and target images so that the seam between the two images is less noticeable. Image composition based on numerical differentiation using Laplacian operator to obtain the solution of Poisson equation is presented. The proposed method employs red-black strategy to speed up the computation by using an accelerated parameter to the existing relaxation method. This modified variant of relaxation method known as Modified Accelerated Over-Relaxation (MAOR) method is derived from the existing Modified Successive Over-Relaxation (MSOR) method. Several examples were tested to examine the effectiveness of the proposed method. The results showed that both modified accelerated variants performed faster than their corresponding standard modified successive variants.