Abstract

Restoration of degraded satellite images are in demand. The sources of degradation can be aliasing, blur, noise and atmospheric turbulence, which are usually an ill-posed in nature. This paper introduces Memetic algorithm for image restoration. Previous restoration techniques have been investigated, but except for certain special cases the maximum cases solve the resulting criterion approximately only. So there is a requirement of more demanding optimization methods. A Memetic algorithm herein proposed give efficient image representation by using hill climbing method for population initialization and using extended neighborhood search. The algorithm is performed on a quickbird test satellite image for the optimization of result. The optimization codes are written in Matlab. The proposed method shows 25% improvement from degraded image. Competitively our new approach performs better than some best existing methods. To demonstrate the effectiveness of the proposed method, comparisons are given from the existing methods.

References


Index Terms

Computer Science

Algorithms

Keywords

Memetic Algorithm, PSF, Extended neighborhood Search, PSNR