Abstract

Filtering is the fundamental pre-processing step for digital images. In this paper we present a novel Type-2 fuzzy filter to remove impulse noise. Type-2 fuzzy sets deals the uncertainty in a better way than Type-1 fuzzy set. It gives an interval irrespective of a crisp value in Type-1 fuzzy set. First the impulse noise is detected and then removed by using S-shaped fuzzy membership function. The performance is compared with other existing filters on the basis of PSNR values calculated for original and restored images.

Index Terms

Computer Science
Emerging Trends in Technology
Keywords
Type-2 Fuzzy Logic System  Impulse Noise Removal  Image Processing