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.
Impulse Noise Removal using Type-2 Fuzzy Set


Index Terms

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