Abstract

Processing of images plays a vital role in many fields such as medical and scientific applications. During the transmission of images, effect of noise plays a key role. A fuzzy filter is presented for additive noise removal from color images. During the process of noise removal, some of the edges may be disappeared. This paper presents two independent fuzzy based edge linking algorithms which are capable of finding a set of edge points in an image and linking these edge points by thresholding. The first algorithm includes a set of 16 fuzzy templates, representing the edge profiles of different types. The second algorithm relies on the image gradient to locate breaks in uniform regions and is based on fuzzy if-then rules. Performance evaluation of these algorithms is known by calculating peak signal to noise ratio (PSNR).
References

- Stefan Schulte "Fuzzy and Nonlinear Restoration and Analysis Techniques for Digital Images".
Keywords

Fuzzy filter  Fuzzy rule - based system  Additive noise  Gradient  Edge detection
Intuitionistic fuzzy set

Membership degree

Hesitation degree

Intuitionistic fuzzy divergence

Fuzzy interference system.