Dynamic Thresholding based Adaptive Canny Edge Detection

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Authors:

Ferdous Hossain, Mina Asaduzzaman, Mohammad Abu Yousuf, Md. Armanur Rahman

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Abstract

In this paper, a method for adaptive Canny edge detection algorithm is proposed. Adaptive Canny algorithm is used to increase the accuracy of output objects. In traditional Canny need to set two threshold values manually, so there are some defects to different images but this paper puts faorward an adaptive threshold values based on mean and median values. Our proposed adaptive Canny edge detection method can detect edges successfully which is divided into several steps. First, Gaussian filter is used to smooth and remove noise. Second, gradient magnitude is computed. Third, non-maximum suppression is applied in which the algorithm removes pixels that are not part of an edge. Finally, hysteresis thresholding is applied which uses two threshold values, upper and lower. A pixel will be marked as an edge if it’s gradient lies in between of lower and upper threshold values. A pixel will be discarded if it’s gradient below the lower or beyond the upper threshold values. Eventually, the pixels gradient is between the two threshold values will be connected as marked edge. The experimental results show the efficacy of the proposed method.
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References


Index Terms

Computer Science
Image Processing

Keywords
Adaptive canny; sobel; dynamic threshold; edge detection