Abstract

Quality and execution time are two important factors for evaluation of edge detection algorithms. In these algorithms, there is a trade-off between quality and execution time. Some algorithms only concentrate on quality and some of them are fast and low quality. Efficient methods try to achieve high quality in a low time. This research concentrates on improvement of gradient based edge detection that is fast method and appropriate for real-time processing. The proposed algorithm reduces execution time by removing many pixels from computations. It calculates gradient and angle class of remaining pixels in a very efficient way so that it reinforces quality and locality of edges. The results of this algorithm indicated improvement of performance in comparison to Canny and LOG algorithms.

References


**Index Terms**

Computer Science  
Image Processing

**Keywords**

Edge detection algorithm  
Gradient of image  
Angle Class of pixel  
Non-Maximum Suppression  
Post reduction of noise

Edge detector evaluation

Locality of edges

Quality of edges.