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.