

Modified canny edge detection technique for joining discontinued edges

ABSTRACT

Edge detection is an image processing technique that retains the edges of an object in an image while discarding other features. The Canny edge detection technique is regarded as one of the most successful edge detection algorithms because of the good edge detection effect. However, one of its problems is the discontinued edges. In this paper, we present an endpoint identification algorithm that can pinpoint the position of the discontinued edges. After the endpoints are identified, they are paired together based on distance, and the broken gaps are filled, thus fixing the discontinued edges. This is done with the help of 16 masks. Results have shown that, visually, our method has fewer discontinued edges when compared to Canny. Also, the mean square error of our method is lower than traditional Canny, indicating that our technique produces edge images that are more accurate than the traditional Canny.