

Abstract

Edge detection aim to increase edge vision from image's objects. Marr-Hildreth and Canny are the method that used for edge detection that doing smoothing process to reduce noise. The basic different between Marr-Hildreth and Canny is Marr-Hildreth use second derivative operator while Canny use first derivative operator.

At this final project would analyze edge detection techniques Canny and Marr-Hildreth, SNR value influence, threshold, sigma, and image scale to Marr-Hildreth and Canny performances based on error level (error detection), FOM (Figure of Merit), and edge detection process time. Entire test would be executed to two images, simple image and complex image / real image.

From the test and analysis result, showing that Canny has good performance if applied to complex image and at low SNR. While Marr-Hildreth will be better if applied to simple image and at high SNR because besides resulting almost same result with Canny, also its edge detection process time is faster than Canny.

Keywords: Edge Detection, Error Detection, FOM, Image, Noise, Sigma, Smoothing, SNR, Threshold