A COMPARISON OF CIRCULAR OBJECT DETECTION USING HOUGH TRANSFORM AND CHORD INTERSECTION

Abstract:

In this paper, the circular Hough transform (CHT) and the chord intersection have been used to find the circular object in the feature extraction process. The chord intersection technique does not require any gradient information which may be sensitive to noise meanwhile for the CHT technique, the gradient information has been used. In this research, the coconut was selected as the object of interest. 40 images have been experimented to evaluate the performance of the techniques and the detection rate for the CHT is 92.5% and 85% for the chord intersection technique. The average computational time for chord intersection technique is 0.1495s by CPU (AMD Athlon 64×2 Dual core 3800) 2GHz meanwhile CHT consumed more time, 2.3871s in detecting the circular pattern.

Author Keywords

Chord intersection; Circular hough transform