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**“Canny Edge Detection on Hexagonal Image
Structure”**

by

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Time : 11:00 ~ 12:00
Venue : Room J214

Abstract

Canny edge detector is the most popular tool for edge detection and has many applications in the areas of image processing, multimedia and computer vision. The Canny algorithm optimizes the edge detection through noise filtering using an optimal function approximated by the first derivative of a Gaussian. It identifies the edge points by computing the gradients of light intensity function based on the fact that the edge points likely appear where the gradient magnitudes are large. Hexagonal structure is an image structure alternative to traditional square image structure. Because all the existing hardware for capturing image and for displaying image are produced based on square structure, an approach that uses linear interpolation is proposed in this paper for conversion between square and hexagonal structures. Gaussian filtering together with gradient computation is performed on the hexagonal structure. The pixel edge strengths on the square structure are then estimated before the thresholds of Canny algorithm are applied to determine the final edge map. The experiments show satisfactory edge detection results on hexagonal structure, compared with the results using Canny algorithm on square structure.

ALL ARE WELCOME!