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### **Abstract**

Edge detection is a critical stage in many computer vision systems as image segmentation and object detection. As it is difficult to detect image edges with precision and with low complexity, it is appropriate to find new methods for edge detection. In this paper, we take advantage of Corner detection to detect edges in a multi-scale way with low complexity, and we propose a novel corner feature. The principle of Corner detectors is always the same; it looks for a quick change of direction of the contour. In the first part, this principle has been used to detect the corners of our image since the general objective is to detect buildings from THR satellite images based on the geometrical shape of buildings. Histogram has too been used as a next step to analyze R in order to set the number of points of interest. The second part of this work used to detect the edges points with canny, choosing different thresholds to view the problem of canny to the automation of the threshold. Finally, an automatic method has been proposed to partly answer the problem of the operator of Harris and Canny; by combining the results of the first part with the result of the second part. The contribution is to choose the Harris operator as the

selected threshold determiner. The effectiveness of the proposed method is supported by the experimental results that prove that the method is faster than many competing state-of-the-art approaches and can be used in real-time applications.

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### Index Terms

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### Keywords

Detection of building, Edge detection, Interest point