Abstract

Several approaches are based on the extraction of building contours by applying the Canny filter. The latter uses the local first-order operator (gradient technique), followed by a search for local maxima. However, these techniques often give unsatisfactory results on satellite images where intensity changes are rarely sharp. These techniques also require a thresholding operation for better contour detection, which makes the automation of the approach very complicated. The alternative approaches to apply the Gabor filter which has the advantage of being located in space and in the frequencies, and very widespread because of its property of optimal joint resolution in frequency and time. Their use makes it possible to extract the contours of the images to characterize their texture. The final step is to group the pixels into a number of classes representing the texture regions. The k-means classification algorithm has been applied for this sake.

**Index Terms**

Computer Science  
Image Processing

**Keywords**

Building Detection, Gabor Filter.