

## Feature Extraction Based on Contourlet Transform and Log Gabor Filter for Detection of Ulcers in Wireless Capsule Endoscopy

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**Abstract :** The entire visualization of GastroIntestinal (GI) tract is not possible with conventional endoscopic exams. Wireless Capsule Endoscopy (WCE) is a low risk, painless, noninvasive procedure for diagnosing diseases such as bleeding, polyps, ulcers, and Crohns disease within the human digestive tract, especially the small intestine that was unreachable using the traditional endoscopic methods. However, analysis of massive images of WCE detection is tedious and time consuming to physicians. Hence, researchers have developed software methods to detect these diseases automatically. Thus, the effectiveness of WCE can be improved. In this paper, a novel textural feature extraction method is proposed based on Contourlet transform and Log Gabor filter to distinguish ulcer regions from normal regions. The results show that the proposed method performs well with a high accuracy rate of 94.16% using Support Vector Machine (SVM) classifier in HSV colour space.

**Keywords :** contourlet transform, log gabor filter, ulcer, wireless capsule endoscopy

**Conference Title :** ICACECI 2014 : International Conference on Advances in Computing, Electronics, Communications and Informatics

**Conference Location :** Paris, France

**Conference Dates :** December 30-31, 2014