Contourlet Transform and Local Binary Pattern Based Feature Extraction for Bleeding Detection in Endoscopic Images

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Abstract : Wireless Capsule Endoscopy (WCE) has become a great device in Gastrointestinal (GI) tract diagnosis, which can examine the entire GI tract, especially the small intestine without invasiveness and sedation. Bleeding in the digestive tract is a symptom of a disease rather than a disease itself. Hence the detection of bleeding is important in diagnosing many diseases. In this paper we proposes a novel method for distinguishing bleeding regions from normal regions based on Contourlet transform and Local Binary Pattern (LBP). Experiments show that this method provides a high accuracy rate of 96.38% in CIE XYZ colour space for k-Nearest Neighbour (k-NN) classifier.

Keywords : Wireless Capsule Endoscopy, local binary pattern, k-NN classifier, contourlet transform
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