

## システム情報工学研究科修士論文概要

年 度	平成 24 年度	学位名	修士( 工学 )
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論文題目  Study on Anomaly Detection for Capsule Endoscopy Images (カプセル内視鏡画像からの異常検出に関する研究)			
論文概要  Capsule endoscopy is a painless tool for gastrointestinal examination and more and more expansively utilized in hospitals. With a view to the efficiency and accuracy of capsule endoscopy diagnosis restricted by the large quantity of images, I present in this thesis an anomaly detection method for capsule endoscopy images within the range of small intestine.  The proposed anomaly detection method sets out from a novel idea that, by learning the normal and measuring the scale of difference between unknown image and the normal, it is promising to detect as much as anomalies once. In image pre-processing, a new non-linear color space conversion is introduced, combined with several other fundamental processing techniques. To realize the detection, this thesis takes advantage of Higher-order Local Auto Correlation for feature extraction, and subspace method as classifier. In experiments, this thesis makes comparison of the results coming out from several major anomalies and combinations of different techniques. The effectiveness of proposed method is validated by these experimental results.			
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