

# **Detection of image quality improving algorithms in Wireless Capsule Endoscopy (WCE)**

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**One of the issues that has been paid more attention by the medical community would be diagnosis and treatment of gastrointestinal and gastrointestinal lesions cancers. The reason that the early detection of these types of cancers is highlighted is that the diseases treated by surgery can be prevented or treated by endoscopy. Application process specifications and special features of endoscopy environment are the reasons that despite the great achievements in image processing and image enhancement; just some techniques have been adopted for endoscopy images. Since the traditional endoscopy techniques were aggressive and by using these systems visualization of major parts of gastrointestinal could not be possible, Wireless Capsule Endoscopy(WCE) Has been introduced as one of the most recent detecting non aggressive solutions to gastrointestinal imaging techniques. Quality of capsule endoscopy imaging plays a great role in diagnosis therefore it's an important issue. Since the gastroenterologist have not been satisfied with quality of taken images, this matter become a challenge for gastroenterologist. Considering a variety of quality improvement algorithms and and specific characteristics of these types of images, certainly all quality improvement algorithms could not be suitable for these images. In this thesis, our purpose would be the detection of various algorithms and techniques due to improvements in quality of capsule endoscopy imaging. At the end, these algorithms based on endoscopy low contrast noisy images will be applied by using matlab codes then the result obtained as a result of the evaluation method compared to the original image would be analyzed, which is achieved by PSNR as quality evaluation parameters.**

**Keywords : Image Quality, Contrast Enhancement, Image Enhancement Algorithms, Medical Image Processing, Wireless Capsule Endoscopy(WCE)**

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