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국문 강연제목: 진단 성능 향상을 위한 딥러닝 기반의 저선량 CT 영상 노이즈 저감 방법
및 진단 성능 평가 방법

영문 강연제목: Deep learning-based low-dose computed tomography image
denoising method and diagnostic performance evaluation

Abstract

The purpose of developing a denoising method for low-dose computed tomography (LDCT) images is to improve diagnostic accuracy. To increase diagnostic accuracy, we develop training strategies for deep learning-based denoiser to accurately restore diagnosis-related features. The first strategy to preserve diagnostic features is training denoiser to minimize a CT-specific perceptual loss, and the second one is highlighting diagnostic features in training images by applying an attention map. Furthermore, we introduce a task-based assessment that can more accurately evaluate diagnostic performance than the pixel-based image quality evaluation method and show the improved diagnostic performance of denoised LDCT images from denoisers trained using the proposed methods.

Brief Biosketch

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- [Research of interest] 딥러닝 기반의 의료 영상처리 방법 개발 / Deep learning-based medical image processing, 의료 영상 평가 방법 개발 / Quality evaluation on medical images