

## عنوان مقاله:

Ai in medical imaging review study

## محل انتشار:

سومین کنگره بین المللی انجمن علمی دانشجویان رادیولوژی کشور (سال: 1402)

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## خلاصه مقاله:

Introduction: One of the most promising areas of health innovation is the application of artificial intelligence (AI), primarily in medical imaging. Publications on AI have rastically increased from about 100-150 per year in 2007-2008 to 700-800 per year in 2016-2017. Magnetic resonance imaging and computed tomography collectively account for more than 50% of current articles. Materials and methods: In medical imaging, many publicly available ConvNet models (VGGNet, ResNet, Inception V3 and DenseNet) have been used thus far. Kermany et al. showed promising diagnostic applications for deep learning and transfer learning techniques in detection of three major retinal conditions, namely DME, CNV and drusen, from images captured using OCT, a technique that employs a retinal-imaging device that uses infrared light and low-coherence interferometry to scan through the retinal layers. Further validation of the effectiveness of the authors' deep learning approach for medical diagnoses was conducted on a set of children chest X-rays (CXR) consisting of 5,232 training images from 5,826 patients (2,538 bacterial pneumonia, 1,345 viral pneumonia and 1,349 healthy) and 624 images (234 healthy and 390 pneumonia) from 624 patients. They achieved an accuracy of 92.8%. Result: Radiologists are already familiar with computer-aided detection/diagnosis (CAD) systems, which were first introduced in the 1960s in chest x-ray and mammography applications. However, advances in algorithm development, combined with the ease of access to computational resources, allows AI to be applied in radiological decision-making at a higher functional level. AI will surely impact radiology, and more quickly than other medical fields. It will change radiology practice more than anything since Roentgen. Radiologists can play a leading role in this oncoming

## کلمات کلیدی:

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