

**Name of Journal:** *Artificial Intelligence in Medical Imaging*

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**Manuscript Type:** EDITORIAL

**Rising role of artificial intelligence in image reconstruction for biomedical imaging**

Chen XL *et al.* AI in biomedical image reconstruction

Xue-Li Chen, Tian-Yu Yan, Nan Wang, Karen M von Deneen

### **Abstract**

In this editorial, we review recent progress on the applications of artificial intelligence (AI) in image reconstruction for biomedical imaging. Because it

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Nov 10, 2019 · A possible **role** for **diagnostic radiographers** could be at the forefront of developing and validating low-**dose CT protocols** that can be 'converted' to **standard dose imaging** by increasing their skills in **visual image analysis**.

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**Publish Year:** 2019

## AI poised to 'transform' medical imaging, radiology ...

<https://www.medtechdive.com/news/ai-poised-to-transform-medical-imaging-radiology...> ▾

Apr 17, 2019 · **Imaging research laboratories** are developing **artificial intelligence systems** to **improve medical image reconstruction, noise reduction**, quality assurance, triage, segmentation, computer-aided detection, computer-aided classification and radiogenomics. A key area of focus is the reduction of diagnostic errors that may cause patient harm.

## Checklist for Artificial Intelligence in Medical Imaging ...

<https://pubs.rsna.org/doi/10.1148/ryai.2020200029>

Mar 25, 2020 · The advent of deep neural networks as a new **artificial intelligence (AI)** technique has engendered a large number of **medical applications**, particularly in **medical imaging**. Such applications of **AI** must remain grounded in the fundamental tenets of science and scientific publication . Scientific results must be reproducible, and a scientific publication must describe ...

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<https://www.medtechdive.com/news/ai-poised-to...> ▾

Apr 17, 2019 - **Diagnostic errors** play a role in up to 10% of patient deaths, and between 3% and 6% of **image interpretations** by radiologists contain clinically important errors, the report said. The **report** looks at strategies to produce more publicly available, validated and reusable datasets for evaluating new algorithms and techniques.

## Artificial Intelligence Dramatically Improves Medical ...

<https://scitechdaily.com/ai-dramatically-improves-medical-imaging-quality> ▾

A new **artificial-intelligence-based** approach to **image reconstruction** – called AUTOMAP – yields higher quality **images** from less data, reducing radiation doses for CT and PET and shortening scan times for MRI. Shown here are MR **images reconstructed** from the same data with conventional



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### [Artificial intelligence improves biomedical imaging](#)

<https://techxplore.com/news/2019-09-artificial...>

Sep 30, 2019 · ETH researchers use **artificial intelligence** to improve quality of **images** recorded by a relatively new **biomedical imaging method**. This paves the way towards more accurate **diagnosis** and cost-effective devices. Scientists at ETH Zurich and the University of Zurich have used machine learning methods to improve **optoacoustic imaging**.

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### [New technique uses AI, machine learning for image ...](#)

<https://www.radiologybusiness.com/topics/...>

"An essential part of the clinical **imaging** pipeline is **image reconstruction**, which transforms the raw data coming off the scanner into **images** for radiologists to evaluate," author Bo Zhu, PhD, a research fellow at Massachusetts General Hospital's Athinoula A. Martinos Center for **Biomedical Imaging**, said in a prepared statement. "The ...

### [New artificial intelligence technique dramatically ...](#)

<https://phys.org/news/2018-03-artificial...>