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Rising role of artificial intelligence in image reconstruction for biomedical imaging

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

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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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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.

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

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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](#)

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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...>