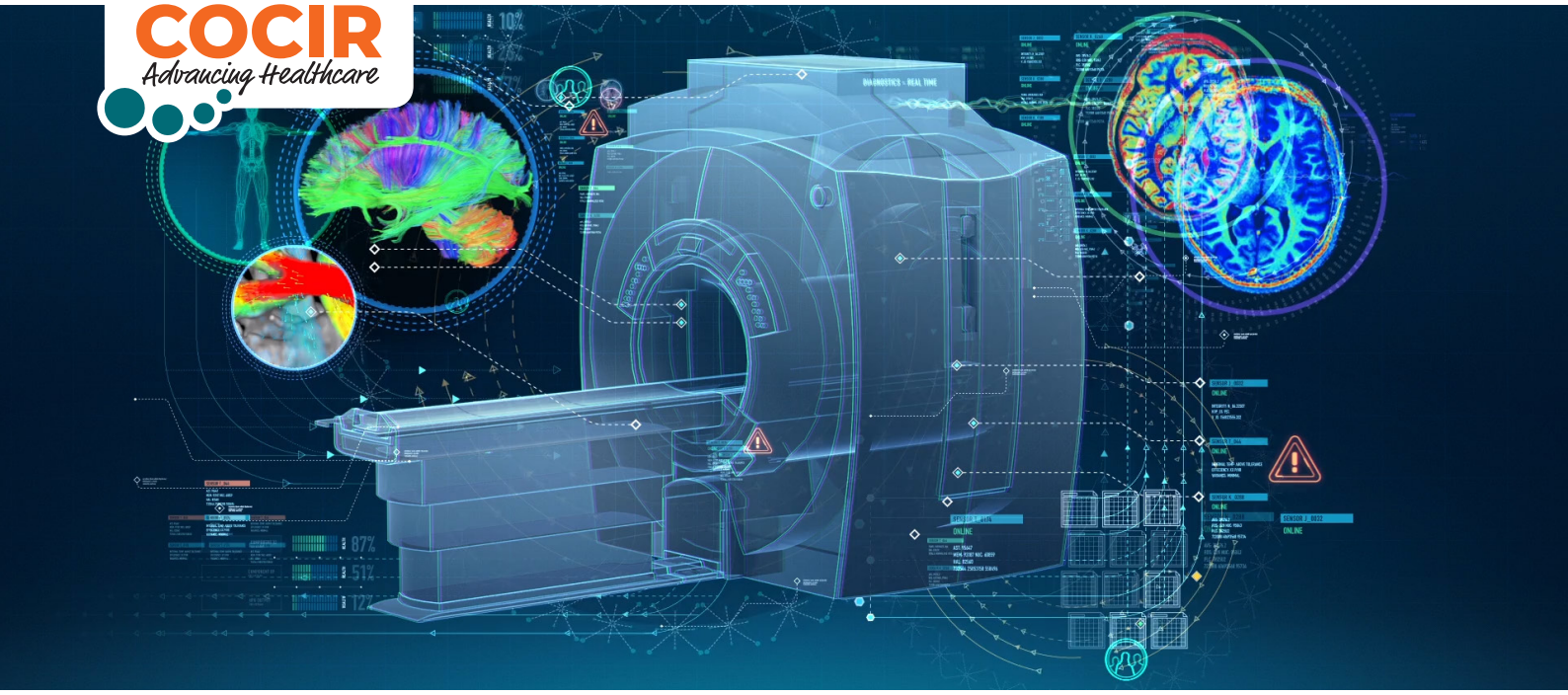

AI APPLIED TO MAGNETIC RESONANCE

MEDICAL FIELD, OR MEDICAL METHOD

Radiology / Medical Imaging / Diagnostics / Magnetic Resonance

TYPE

☐ Decision support ☑ Autonomous decision making

CATEGORY

☐ Prevention ☑ Detection ☑ Diagnosis ☐ Treatment ☐ Other

DESCRIPTION

AIR™ Recon DL is a deep learning-based convolutional neural network designed to intelligently reconstruct a final MR image with high SNR and improved image sharpness.

AIR™ Recon DL is not a filter or post-processing technique but rather is embedded directly in the reconstruction pipeline, where the neural network model is applied to input data to remove noise and ringing artifacts prior to final image formation. This means AIR™ Recon DL can access the full set of acquired source data to generate

an image, compared to post DICOM image conversion where important information has already been lost.

AIM / PURPOSE

AIR™ Recon DL is a deep learning-based convolutional neural network designed to intelligently reconstruct a final MR image with high SNR and improved image sharpness.

OUTPUT / RESULTS

The result of the AI AIR™ Recon DL's neural network is an image with high SNR and spatial resolution. With AIR™ Recon DL, radiologists can have higher consistency and quality in the images they interpret. Technologists can acquire higher SNR images with shorter scan times than usual for this level of SNR. No more compromises or tradeoffs in MRI (SNR vs time vs spatial resolution) compared to conventional reconstruction algorithms.

AI METHODOLOGY

Deep learning-based convolutional Neural Network.

INPUT / SIZE OF THE DATA

AIR™ Recon DL's neural network is trained on over 10,000 images using GE's Edison AI Platform to recognize patterns characteristic of noise and low resolution. The trained network employs a cascade of over 100,000 unique pattern recognitions for noise and low resolution to reconstruct only the ideal object image.

The network includes a tunable SNR improvement level (3 different levels) to suit the user's preference. It also includes an innovative ringing suppression technology that recognizes common artifacts like Gibbs ringing and truncation and recasts it into improved image detail. →

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SOURCE

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