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Engineers in Australia design 5-minute full body MRI scanner using AI

March 1, 2024 | News

A promising new AI method developed by Monash University engineers



In a study published in *Computers in Biology and Medicine*, researchers at Monash University in Australia have shown how their novel artificial intelligence (AI) technology, McSTRA, outperformed state-of-the-art methods, producing enhanced clinical imaging in record time.

Magnetic Resonance Imaging (MRI) scans can take up to 60 minutes, depending on the size of the area being scanned. The new software is capable of completing scans 10-times faster than current MRI technology, giving it the potential to reduce scan times to just minutes and boost the number of patients accessing diagnostic services.

If further validation of the method is successful, the researchers hope to see it incorporated by manufacturers into next generation MRI equipment for use in patient settings.

With more than 30 million Australians reliant on diagnostic services every year, some patients are forced to wait weeks to secure an appointment, creating significant delays to receiving a diagnoses.

Patients undergoing scans must remain motionless inside an MRI scanner for up to 60 minutes which can be an unpleasant experience for some.

Study senior author, Associate Professor Zhaolin Chen, Head of the Imaging Analysis at Monash Biomedical Imaging, said faster scan times could reduce patient discomfort.

“McSTRA uses superior deep-learning technology to simultaneously enhance MRI image quality and enable unprecedented scan times,” Associate Professor Chen said.

The study was a collaboration between researchers from Monash Biomedical Imaging and the Department of Electrical and Computer Systems Engineering at Monash University.