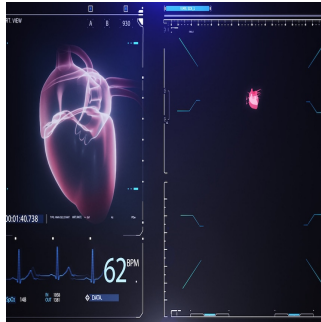


Artificial Intelligence Speeds Up Heart Scans



Teams from the Universities of East Anglia (UEA), Sheffield, and Leeds have created an intelligent computer model that uses artificial intelligence (AI) to examine heart images from MRI scans, specifically focusing on the four-chamber plane. The study is published in *European Radiology Experimental*.

The team has pioneered revolutionary 4D MRI imaging technology. This advancement is paving the way for faster, non-invasive, and more accurate diagnoses of heart failure and other cardiac conditions.

According to the study researchers, the AI model accurately determined the size and function of the heart's chambers and demonstrated outcomes comparable to manual analysis by doctors but much quicker. Unlike standard manual MRI analysis, which can take up to 45 minutes or more, the new AI model completes the process in just a few seconds. This automated technique could provide speedy and dependable evaluations of heart health, enhancing patient care.

The study included data from 814 patients from Sheffield Teaching Hospitals NHS Foundation Trust and Leeds Teaching Hospitals NHS Trust, which was used to train the AI model. To ensure accuracy, scans and data from an additional 101 patients from the Norfolk and Norwich University Hospitals NHS Foundation Trust were used for testing.

While previous studies have explored AI in interpreting MRI scans, this latest model was trained using data from multiple hospitals and various types of scanners. It was tested on a diverse group of patients from different hospitals. The model provides a comprehensive analysis of the entire heart using a four-chamber view, unlike earlier studies that focused on only two chambers.

Automating the process of assessing heart function and structure will save time and resources and ensure consistent results for doctors, point out the researchers. This innovation could lead to more efficient diagnoses, better treatment decisions, and ultimately, improved outcomes for patients with heart conditions. Furthermore, the potential of AI to predict mortality based on heart measurements highlights its potential to revolutionise cardiac care and improve patient prognosis.

The researchers suggest future studies should test the model using larger groups of patients from different hospitals, with various types of MRI scanners, and including other common diseases to validate its effectiveness in broader real-world scenarios.

Recent research from the teams at UEA, Leeds, and Sheffield has also refined the use of heart MRI scans for female patients, particularly those with early or borderline heart disease, resulting in a 16.5% increase in diagnoses among women.

Source: [University of East Anglia](#)

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