

NVIDIA Partners With NHS Trusts to Deploy AI Platform in UK Hospitals

England's publicly funded health service will deliver clinical AI applications for stroke, dementia, heart failure, cancer and more using MONAI, an open-sourced framework developed in collaboration with NVIDIA and the AI Centre.

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A consortium of 10 National Health Service Trusts — the publicly funded healthcare system in England — is now deploying the MONAI-based AIDE platform across four of its hospitals, providing AI-enabled disease-detection tools to healthcare professionals serving 5 million patients a year.

AIDE, short for AI Deployment Engine, is expected to be rolled out next year across 11 NHS hospitals serving 18 million patients, bringing AI capabilities to clinicians. It's built on MONAI, an open-source medical imaging AI framework co-developed by NVIDIA and the AI Centre, which allows AI applications to interface with hospital systems.

Together, MONAI and AIDE enable safe and effective validation, deployment and evaluation of medical imaging AI models, which the NHS will apply in diagnosing and treating cancers, stroke, dementia and other conditions. The platform is being deployed at the following facilities: Guy's and St Thomas's, King's College Hospital, East Kent Hospital University and University College London Hospitals NHS Foundation Trusts.

"Deployment of this infrastructure for clinical AI tools is a hugely exciting step in integrating AI into healthcare services," said James Teo, professor of neurology and data science at King's College Hospital NHS. "These platforms will provide a scalable way for clinicians to deploy healthcare AI tools to support decision-making to improve the speed and precision of patient care. This is the start of a digital transformation journey with strong, safe and open foundations."

Introduced in 2019, MONAI is reducing the complexity of medical workflows from R&D; to the clinic. It allows developers to easily build and deploy AI applications, resulting in a model ready for clinical integration, and making it easier to interpret medical exams and unlock new levels of knowledge about patients.

MONAI provides deep learning infrastructure and workflows optimized for medical imaging. MONAI, with more than 650,000 downloads, is used by leading healthcare institutions Guy's and St Thomas' Hospital and King's College Hospital in the U.K., for its ability to harness the power and potential of medical imaging data to simplify and streamline the process for building AI models.

"Across the healthcare ecosystem, researchers, hospitals and startups are realizing the power of incorporating a streamlined AI pipeline into their work," said Haris Shuaib, AI transformation lead at the AI Centre. "The open-source MONAI ecosystem is standardizing hundreds of AI algorithms for maximum interoperability and impact, enabling their deployment in just a few weeks instead of three-to-six months."

Built in collaboration with the AI Centre for Value Based Healthcare — a consortium of universities, hospitals and industry partners led by King's College London and Guy's and St Thomas' NHS Foundation Trust — AIDE brings the capabilities of AI to clinicians. This solution equips clinicians with improved information about patients, making healthcare data more accessible and interoperable, in order to improve patient care.

The AI Centre has already developed algorithms to improve diagnosis of COVID-19, breast cancer, brain tumor, stroke detection and dementia risk. AIDE connects approved AI algorithms to a patient's

medical record seamlessly and securely, with the data never leaving the hospital trust.

Once the clinical data has been analyzed, the results are sent back to the electronic healthcare record to support clinical decision-making. This provides another valuable data point for clinical multidisciplinary teams when reviewing patients' cases. It's hoped that AIDE can support speeding up this process to benefit patients.

"The AI Centre has done invaluable work towards integrating AI into national healthcare. Deploying MONAI is a critical milestone in our journey to enable the use of safe and robust AI innovations within the clinic," said Professor Sebastien Ourselin, deputy director of the AI Centre. "This could only be achieved through our strong partnerships between academic and industry leaders like NVIDIA."

AIDE was displayed in Chicago as part of the RSNA Imaging AI in Practice demonstration . The open-source code for AIDE is now published on GitHub .

Get started with MONAI and watch the NVIDIA RSNA special address .

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