

NVIDIA and GE HealthCare Collaborate to Advance the Development of Autonomous Diagnostic Imaging With Physical AI

New NVIDIA Isaac for Healthcare Medical Device Simulation Platform to Fast-Track Development of Autonomous Imaging Systems and Robotics

GTC—NVIDIA today announced a collaboration with GE HealthCare to advance innovation in autonomous imaging, focused on developing autonomous X-ray technologies and ultrasound applications.

Building autonomy into systems like X-ray and ultrasound requires medical imaging systems to understand and operate in the physical world. This enables the automation of complex workflows such as patient placement, image scanning and quality checking.

To accomplish this, GE HealthCare, a pioneering partner, is using the new NVIDIA Isaac™ for Healthcare medical device simulation platform, which includes pretrained models and physics-based simulations of sensors, anatomy and environments. The platform accelerates research and development workflows, enabling GE HealthCare to train, test and validate autonomous imaging system capabilities in a virtual environment before deployment in the physical world.

“The healthcare industry is one of the most important applications of AI, as the demand for healthcare services far exceeds the supply,” said Kimberly Powell, vice president of healthcare at NVIDIA. “We are working with an industry leader, GE HealthCare, to deliver Isaac for Healthcare, three computers to give lifesaving medical devices the ability to act autonomously and extend access to healthcare globally.”

Expanding Access to Imaging With Physical AI

Ultrasounds and X-ray are the most common and widely used diagnostic imaging systems, yet nearly two-thirds of the global population lack access. Enhancing imaging systems with robotic capabilities will help expand access to care.

NVIDIA and GE HealthCare have been working together for nearly two decades, building innovative image-reconstruction techniques across CT and MRI, image-guided therapy and mammography.

“GE HealthCare is committed to developing innovative technologies that redefine and enhance patient care,” said Roland Rott, president and CEO of Imaging at GE HealthCare. “We look forward to taking advantage of physical AI for autonomous imaging systems with NVIDIA technology to improve patient access and address the challenges of growing workloads and staffing shortages in healthcare.”

Isaac for Healthcare Closes Gap Between Simulation and Reality

NVIDIA will also support other customers with Isaac for Healthcare for use cases including simulation environments. Simulation environments enable robotic systems to safely learn skills in a physically accurate virtual environment for real-world situations, such as surgery, that would otherwise be impossible to replicate.

Isaac for Healthcare is a physical AI platform built on NVIDIA's three computers for robotics: [NVIDIA DGX™](#), [NVIDIA Omniverse™](#) and [NVIDIA Holoscan](#). It includes AI models fine-tuned for healthcare robotics that can understand, act and see using enhanced vision and language processing. It also has a simulation framework for developers to accurately simulate medical environments and provides seamless deployment on NVIDIA Holoscan, an edge AI computing platform, to power robotic decision-making in the real world, in real time.

Simulation options for medical sensors are often limited. With Isaac for Healthcare, developers can now access physics-based [digital twins](#) of medical environments, allowing them to import custom sensors, instruments and even anatomies to teach robots how to respond to various scenarios. These virtual environments help close the gap between simulation and real-world implementation, and enable rapid digital prototyping.

Isaac for Healthcare allows for multi-scale simulation ranging from microscopic structures and surgery suites to full hospital facilities. Easy policy training in simulation allows robotic systems to learn how to respond in various medical scenarios in the operating room, and how to best support physician decision-making and patient care.

Healthcare Robotics Ecosystem Rapidly Expands

Isaac for Healthcare can help speed the development of robotic healthcare solutions by simulating complex medical scenarios, training AI models and optimizing robotic applications like surgery, endoscopy and cardiovascular interventions. Early adopters include Moon Surgical, Neptune Medical and Xcath.

Isaac for Healthcare is enabling ecosystem partners to seamlessly integrate their simulation tools, sensors, robot systems and medical probes into a domain-specific simulation environment. Among early ecosystem partners are Ansys, Franka, ImFusion, Kinova and Kuka.

Isaac for Healthcare is now available in early access.

About NVIDIA

[NVIDIA](#) (NASDAQ: NVDA) is the world leader in accelerated computing.

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