NVIDIA Medical Edge AI Computing Platform Selected by Top Robotic and Digital Surgery Startups

Activ Surgical, Moon Surgical and Proximie will bring real-time AI to their surgery platforms using NVIDIA Clara Holoscan on NVIDIA IGX.

Author: Raghav Mani

NVIDIA today introduced the NVIDIA IGX platform for medical edge AI use cases, bringing advanced security and safety to intelligent machines and human-machine collaboration.

IGX is a hardware and software platform that delivers secure, low-latency AI inference to meet the clinical demand for instant insights from a range of devices and sensors for medical applications, including robotic-assisted surgery and patient monitoring.

The IGX platform supports NVIDIA Clara Holoscan , a domain-specific platform that allows medical-device developers to bridge edge, on-premises data center and cloud services. This integration enables the rapid development of new, software-defined devices that bring the latest AI applications directly into the operating room.

Three leading medical-device startups — Activ Surgical, Moon Surgical and Proximie — have selected the combination of NVIDIA Clara Holoscan running on the IGX platform to power their surgical robotics systems. All three are members of NVIDIA Inception , a global program that helps technology startups evolve faster.

They're among more than 70 medical device companies, medical centers and startups already using Clara Holoscan to advance their efforts to deploy AI computing in clinical settings.

Activ Surgical has selected NVIDIA Clara Holoscan to accelerate development of its AI and augmented-reality solution for real-time surgical guidance. The Boston-based company's ActivSight technology allows surgeons to view critical physiological structures and functions, like blood flow, that cannot be seen with the naked eye.

By integrating this information into surgical imaging systems, the company aims to reduce surgical complication rates, improving patient care and safety.

"NVIDIA Clara Holoscan will help us optimize precious engineering resources and go to market faster," says Tom Calef, chief technology officer at Activ Surgical. "With Clara Holoscan and NVIDIA IGX, we envision that our intraoperative AI solution will transform the collective surgical experience with data-driven insights, helping make world-class surgery accessible for all."

Paris-based robotic surgery company Moon Surgical is designing Maestro, an accessible, adaptive surgical-assistant robotics system that works with the equipment and workflows that operating rooms already have in place.

"NVIDIA has all the hardware and software figured out, with an optimized architecture and libraries," said Anne Osdoit, CEO of Moon Surgical. "Clara Holoscan helps us not worry about things we typically spend a lot of time working on in the medical-device development cycle."

The company has instead been able to focus its engineering resources on AI algorithms and other unique features. Adopting Clara Holoscan saved them time and resources, helping them compress their development timeline.

London-based Proximie is building a telepresence platform to enable real-time, remote surgeon collaboration. Clara Holoscan will allow the company to provide local video processing in the operating room, improving performance for users while maintaining data privacy and lowering cloud-computing costs.

“We are delighted to work with NVIDIA to strengthen the health ecosystem and further our mission to connect operating rooms globally,” said Dr. Nadine Hachach-Haram, founder and CEO of Proximie. “Thanks to this collaboration, we are able to provide the most immersive experience possible and deliver a resilient digital solution, with which operating-room devices all over the world can communicate with each other and capture valuable insights.”

Proximie is already deployed in more than 500 operating rooms around the world, and has recorded tens of thousands of surgical procedures to date.

The NVIDIA IGX platform is powered by NVIDIA IGX Orin, the world’s most powerful, compact and energy-efficient AI supercomputer for medical devices. IGX Orin developer kits will be available early next year.

IGX features industrial-grade components designed for medical certification, making it easier to take medical devices from clinical trials to real-world deployment.

Embedded-computing manufacturers ADLINK, Advantech , Dedicated Computing , Kontron, Leadtek, MBX, Onyx, Portwell , Prodrive Technologies and YUAN will be among the first to build products based on NVIDIA IGX for the medical device industry.

Learn more about the NVIDIA IGX platform in a special address by Kimberly Powell , NVIDIA’s vice president of healthcare, at GTC . Register free for the virtual conference, which runs through Thursday, Sept. 22.

Hear from Activ Surgical and other leading startups in medical devices, medical imaging and biopharma in the GTC panel, “ Accelerate Patient-Centric Innovation With Makers and Breakers in Healthcare Life Science .” The GTC session “ Take Medical AI from Research to Clinical Production With MONAI and Clara Holoscan ” will highlight the latest developments in MONAI and Clara Holoscan.

Watch the GTC keynote address by NVIDIA founder and CEO Jensen Huang below:

Original URL: https://blogs.nvidia.com/blog/2022/09/20/igx-clara-holoscan-edge-ai-robotic-surgery/