NVIDIA Expands NVIDIA Clara, Adds Global Healthcare Partners to Take on COVID-19

Debuts NVIDIA Clara Guardian to Power Smart Hospitals; Releases New AI Models to Help Better Detect Infection; Breaks Genomics Speed Record in Race to Understand the Virus

GTC 2020 -- In a major expansion of the NVIDIA Clara™ healthcare platform, NVIDIA today announced breakthrough performance, key partnerships and new capabilities to help the medical community better track, test and treat COVID-19.

Combining AI and accelerated computing, the platform helps healthcare researchers, technology solutions providers and hospitals tackle the pandemic faster and in new ways:

- Record-breaking genomics sequencing speed -- NVIDIA Clara Parabricks® computational genomics software, which is available via a free, 90-day license to COVID-19 researchers, achieved a new speed record -- analyzing the whole human genome DNA sequence in under 20 minutes.
- Disease-detection AI models -- Available today, AI models developed jointly with the National Institutes of Health can help researchers study the severity of COVID-19 from chest CT scans and develop new tools to better understand, measure and detect infections.
- NVIDIA Clara Guardian for smart hospitals -- Launched today, NVIDIA Clara Guardian™ uses intelligent video analytics and automatic speech recognition technologies so a new generation of smart hospitals can perform vital sign monitoring while limiting staff exposure.

"The COVID-19 pandemic has supercharged the collaboration of technology, research and the healthcare industry to develop new computing solutions that accelerate the understanding of the spread, scale and severity of this disease," said Kimberly Powell, vice president of Healthcare at NVIDIA. "Never before has there been such a critical need to apply the best AI technology and accelerated computing to every facet of healthcare, and its effects will be felt widely beyond this pandemic and across healthcare going forward."

Genomics Pipelines at the Speed of Light

Running on just-announced NVIDIA A100 GPUs, NVIDIA Clara Parabricks achieved a record for DNA sequencing analysis of the whole genome -- slashing analysis time to just under 20 minutes. NVIDIA also introduced GPU-accelerated RNA-sequencing pipelines that return results in less than 2 hours, giving researchers critical insights into patient susceptibility to disease, its progression, and response to treatment.

"Time is critical in the work we do. NVIDIA Clara Parabricks is being leveraged by researchers in the Center for Rare Childhood Disorders to help determine the most effective therapy for each patient and achieve our goal of delivering same-day results," said Glen Otero, vice president of Scientific Computing at Translational Genomics Research Institute.

Accelerating genomics analysis makes way for creating larger, high-quality datasets in genomics. A newly announced population genome program by Abu Dhabi's Department of Health is using the Group 42 Artemis supercomputer powered by NVIDIA DGX™ systems and NVIDIA Clara Parabricks to build a representative reference genome specific to UAE citizens and incorporate genomics analysis into a comprehensive program for improved clinical care.

To make it easier for users to benefit from NVIDIA Clara Parabricks acceleration on the cloud, NVIDIA is partnering with the DNAnexus enterprise genomics cloud platform to seamlessly provision, run and return results.

New AI Models to Help Detect COVID-19

Providing researchers an additional tool in the battle against COVID-19, NVIDIA released a set of AI models that can help researchers detect and study infected patients through chest CT scan data.

The models are immediately available in the latest release of Clara Imaging on the NGC™ software catalog.

Jointly developed by NVIDIA's applied research team and clinicians and data scientists at the NIH through a cooperative research and development agreement, the models used data from locations with high rates of COVID-19 infections, including China, Italy, Japan and the United States.

The AI models were built using the NVIDIA Clara application framework for medical imaging. NVIDIA Clara contains domain-specific AI training and deployment workflow tools that allowed NVIDIA and NIH to develop the models in under three weeks.

Building robust AI models is a global priority but sharing data is still challenging across global borders. Now underway is a new multinational COVID-19 federated learning initiative led by NVIDIA and Mass General Brigham to expand COVID-19 AI models to X-ray imaging that enables local adaptation without sharing any patient data and protecting patient privacy.

NVIDIA Clara Guardian Helps Hospitals on the Frontline

The new NVIDIA Clara Guardian application framework enables a critically needed ecosystem of AI solutions for hospital public safety and patient monitoring by transforming everyday sensors into smart sensors. Critical use cases include automated body temperature screening, protective masks detection, safe social distancing and remote patient monitoring.

Partners across the ecosystem are using pre-trained models and transfer learning to develop and deploy AI applications that fuse vision, speech and natural language processing. Deployment with NVIDIA EGX™ Edge AI platform enables solution providers to securely deploy and manage fleets of devices throughout the hospital environment.

Dozens of solution partners, including AnyVision, BriefCam, Care.ai, Chooch AI, Deep Vision AI, Diycam, IntelliSite, Malong Technologies, Ouva, SafelyYou, SAFR by RealNetwork, SmartCow, TeiaCare, Tonbo Imaging and Whiteboard Coordinator are already deploying NVIDIA Clara Guardian-based solutions in over 50 hospitals and 10,000 hospitals rooms worldwide.

About NVIDIA

NVIDIA's (NASDAQ: NVDA) invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined modern computer graphics and revolutionized parallel computing. More recently, GPU deep learning ignited modern AI — the next era of computing — with the GPU acting as the brain of computers, robots and self-driving cars that can perceive and understand the world. More information at https://nvidianews.nvidia.com/.

Certain statements in this press release including, but not limited to, statements as to: the benefits, performance, features and availability of our products, technologies and services, including the NVIDIA Clara healthcare platform, NVIDIA Clara Parabricks, NVIDIA Clara Guardian, NVIDIA A100 GPUs, NVIDIA DGX systems, NVIDIA's introduction of GPU-accelerated RNA-sequencing pipelines, NVIDIA's partnership with the DNAnexus enterprise genomics cloud platform, NVIDIA's released set of AI models; the effects of applying the best AI technology and accelerated computing to healthcare being felt widely beyond the COVID-19 pandemic and across healthcare going forward; and NVIDIA and Mass General Brigham's Federated Learning for COVID-19 initiative are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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