

NVIDIA Partners With Industry Leaders to Advance Genomics, Drug Discovery and Healthcare

IQVIA, Illumina, Mayo Clinic and Arc Institute Harness NVIDIA AI and Accelerated Computing to Transform \$10 Trillion Healthcare and Life Sciences Industry

J.P. Morgan Healthcare Conference—NVIDIA today announced new partnerships to transform the \$10 trillion healthcare and life sciences industry by accelerating drug discovery, enhancing genomic research and pioneering advanced healthcare services with agentic and generative AI.

The convergence of AI, accelerated computing and biological data is turning healthcare into the largest technology industry. Healthcare leaders IQVIA, Illumina and [Mayo Clinic](#), as well as Arc Institute, are using the latest NVIDIA technologies to develop solutions that will help advance human health.

These solutions include AI agents that can speed clinical trials by reducing administrative burden, AI models that learn from biology instruments to advance drug discovery and digital pathology, and physical AI robots for surgery, patient monitoring and operations. AI agents, AI instruments and AI robots will help address the \$3 trillion of operations dedicated to supporting industry growth and create an AI factory opportunity in the hundreds of billions of dollars.

“AI offers an exceptional opportunity to advance healthcare and life sciences with tools that help providers detect diseases earlier and discover new treatments faster,” said Kimberly Powell, vice president of healthcare at NVIDIA. “The combination of NVIDIA’s AI and accelerated computing capabilities with the expertise of industry leaders is poised to usher in a new era of medical and biological innovation and improve patient outcomes worldwide.”

AI Foundry Services Boost Drug and Medical Device Development

IQVIA — a leading global provider of clinical research services, commercial insights and healthcare intelligence to the life sciences and healthcare industries — is using the [NVIDIA AI Foundry](#) service to build custom foundation models on its more than 64 petabytes of information, coupled with its deep domain expertise. The company is also developing agentic AI solutions, outfitted with NVIDIA AI Enterprise software including [NVIDIA NIM](#)™ microservices and [NVIDIA Blueprints](#), that can speed research, clinical development and access to new treatments. IQVIA has been leading in the responsible use of AI, ensuring that its AI-powered capabilities are grounded in privacy, regulatory compliance and patient safety.

“This represents a significant leap forward in how we apply AI to healthcare and life sciences,” said Bhavik Patel, president of commercial solutions at IQVIA. “We are excited to combine our industry-leading capabilities and a decade of experience in artificial intelligence with NVIDIA’s advanced AI technologies to build new solutions powered by AI agents that are trained on world-class healthcare information and optimized for life sciences workflows. This collaboration will advance our mission to help our clients accelerate innovation and treatments to market.”

Illumina and NVIDIA Supercharge Next Era of Genomic Breakthroughs

Illumina, a global leader in DNA sequencing and informatics technologies, is working with NVIDIA to unlock the next generation of genomics for drug discovery and human health.

This partnership will enable Illumina to use NVIDIA accelerated computing and AI toolsets for its multiomics analysis software and workflows. This will help make analysis of — and insights from — the human genome more accessible to researchers, pharmaceutical companies and other life sciences customers.

Illumina will offer DRAGEN analysis software on NVIDIA accelerated computing within the Illumina Connected Analytics platform. The integration aims to expand DRAGEN accessibility globally to wherever NVIDIA’s computing platform exists.

Over the last five years, single-cell and spatial genomics have revolutionized drug discovery by providing unprecedented insights into cell understanding. To further expand the genomics market and help enable breakthroughs in target identification, clinical development and biomarker discovery, NVIDIA and Illumina plan to collaborate to progress multiomics data analysis on the Illumina Connected Analytics platform, in addition to developing new biology foundation models.

The R&D community can more quickly and easily tap into rich genomic data by integrating [NVIDIA RAPIDS](#)™ accelerated data science software, included in the NVIDIA AI Enterprise software platform, with the [NVIDIA BioNeMo](#)™ platform’s generative AI models and fine-tuning capabilities for proprietary datasets, and [MONAI](#) for spatial cell imaging workflows. Illumina and NVIDIA will work to make these tools accessible on the Illumina Connected Analytics platform.

“Our ability to combine the power of AI with multiomics data is revolutionizing how we can understand disease,” said Steve Barnard, chief technology officer at Illumina. “By combining Illumina’s expertise in genomics data and analysis with NVIDIA’s powerful AI platforms, we aim to enable pharma and biotech companies to unlock their own multiomics data to uncover

transformative insights and improve success rates in developing lifesaving therapies.”

Mayo Clinic’s AI-Powered Digital Pathology

Pathology, an essential modality clinicians use to diagnose and determine treatments for many types of cancer and other serious and complex health conditions, is a historically slow and manual process. Mayo Clinic Digital Pathology platform, built from autonomous robotic labs and advanced imaging technology, offers a rich and unique dataset of 20 million whole-slide images with 10 million associated patient records to enable the creation of foundation models.

Mayo Clinic and NVIDIA will massively accelerate the development of next-generation pathology foundation models. Mayo Clinic is planning to deploy newly available [NVIDIA DGX™ Blackwell systems](#) — which are based on the NVIDIA Blackwell architecture and offer 1.4TB of GPU memory per system, ideal for handling digital pathology whole-slide datasets — and NVIDIA’s healthcare imaging platform MONAI.

Mayo Clinic and NVIDIA are pioneering this work to serve as a cornerstone for future AI applications in drug discovery, and personalized diagnostics and treatments. The companies will continue to expand this collaboration with Mayo’s clinical and AI expertise and NVIDIA Cosmos Nemotron vision language models and NIM microservices to provide more personalized healthcare experiences, along with predictive and efficient treatment strategies.

Scaling Open Science Biology AI Models With Arc Institute

Arc Institute, a Palo Alto, California-based research organization operating at the intersection of biology and machine learning, is collaborating with NVIDIA to develop and share powerful AI models and tools that advance biomedical discovery.

Arc’s biology and machine learning researchers are working with NVIDIA’s engineers to scale the potential of foundation models for biology that can generalize across different modalities, like DNA, RNA and proteins, and advance applications for drug discovery, synthetic biology across multiple scales of complexity, disease and evolution research, and more.

As part of the collaboration, NVIDIA has provided Arc Institute with expertise in large-scale model development; the NVIDIA BioNeMo platform running on [NVIDIA DGX Cloud](#) for easy-to-use, optimized training; and NVIDIA NIM microservices and Blueprints.

About NVIDIA

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

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